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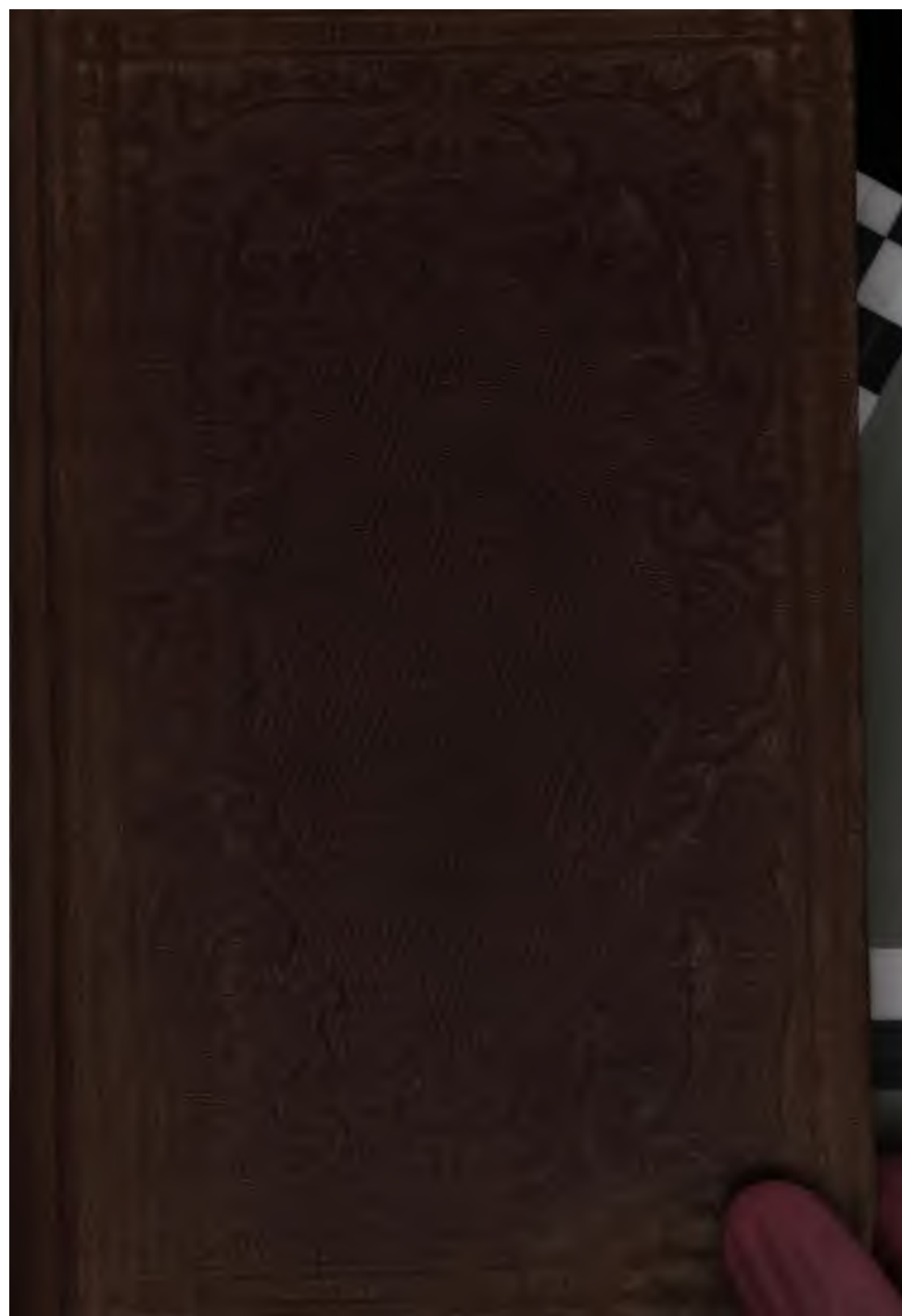
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EARLY PENNSYLVANIA GUIDE BOOK

- 240 [BROMWELL (W.).] Pennsylvania. Locomotive Sketches, with Pen and Pencil, or Hints and Suggestions to the Tourist over the Great Central Route from Philadelphia to Pittsburgh. *Map of the Pennsylvania Railway and very numerous woodcut plates and illustrations in text.* 12mo, original cloth. Philadelphia, 1854

FIRST EDITION. Scarce and early guide book of Pennsylvania and the Pennsylvania Railroad.

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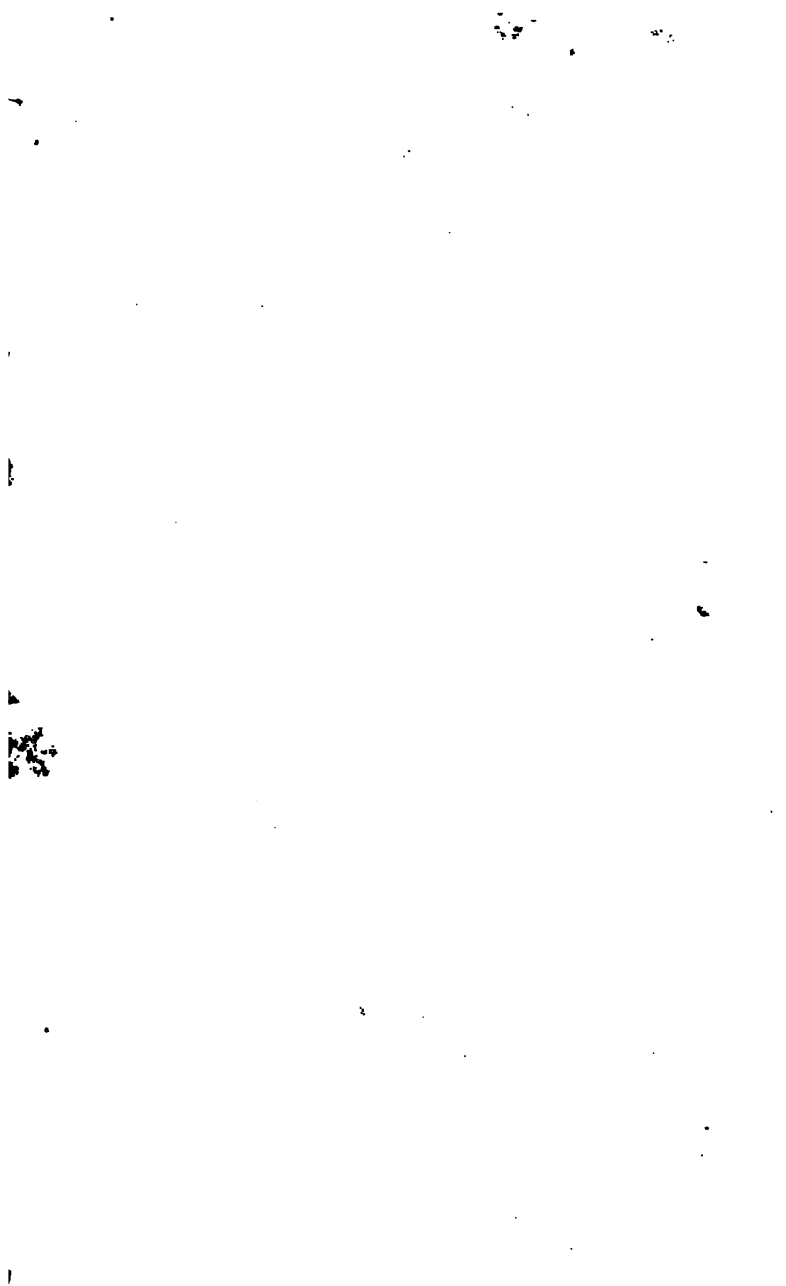
LOCOMOTIVE SKETCHES,

WITH

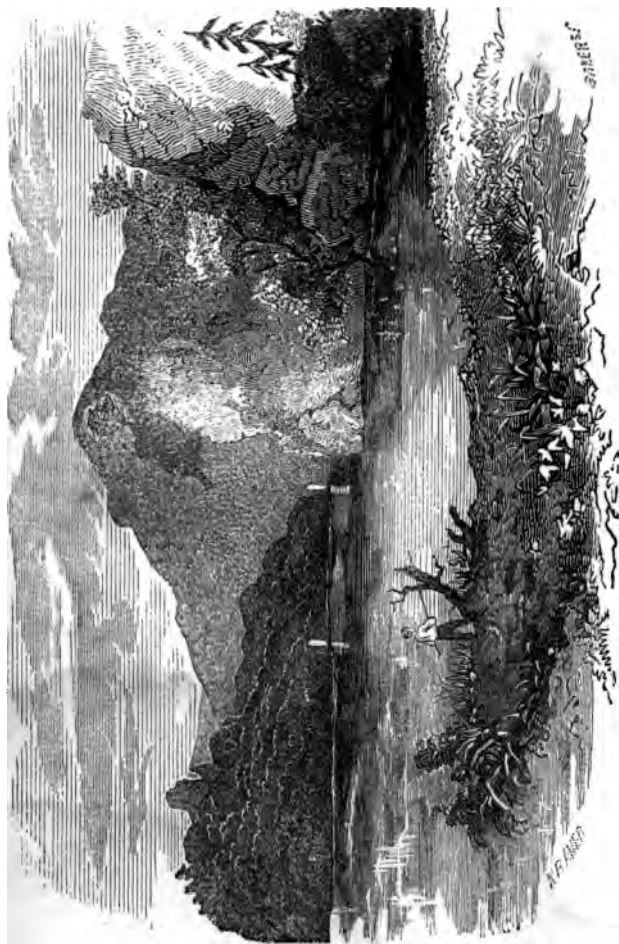
PEN AND PENCIL.

FROM

PHILADELPHIA TO PITTSBURG.







JUNIATA SCENERY.

E. Brownell, Millbury

LOCOMOTIVE SKETCHES,

WITH

PEN AND PENCIL,

OR,

HINTS AND SUGGESTIONS TO THE TOURIST

OVER

THE GREAT CENTRAL ROUTE

FROM

PHILADELPHIA TO PITTSBURG.

~~~~~  
With Numerous Illustrations.  
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PHILADELPHIA:
PUBLISHED BY J. W. MOORE,
195 CHESTNUT STREET.
1854.

Entered according to Act of Congress, in the year 1852, by
WILLIAM BROMWELL,
in the Clerk's office of the District Court of the United States, for the
Eastern District of Pennsylvania.

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TABLE OF DISTANCES BETWEEN

Philadelphia and Cincinnati,

VIA RAILROAD.

PENNSYLVANIA RAILROAD.—PASSENGER STATIONS, 1853.

<i>Miles.</i>	<i>Dist. Betw. Stas.</i>	<i>Miles.</i>	<i>Dist. Betw. Stas.</i>	<i>Miles.</i>	<i>Dist. Betw. Stas.</i>
PHILADELPHIA,	—	121 Aqueduct,	3	248 Plane No. 8	2
4 Hestonville,	4	127 Bally's,	6	252 Summit,	4
9 White Hall,	5	131 Newport,	4	255 Plane No. 4,	3
13 Morgan's Corner,	4	137 Millerstown,	6	258 Plane No. 2,	3
16 Eagle,	2	142 Thompsonstown,	6	262 Jefferson,	4
20 Paoli,	5	148 Mexico,	6	266 Half-Way House,	4
25 Steamboat	5	150 Perryville,	2	269 Viaduct,	3
29 Oakland,	4	163 Mifflin,	3	275 Conemaugh,	6
32 Downingtown,	3	165 Lewistown,	12	277 Johnstown,	2
33 Gallagherville,	1	173 Anderson,	7	282 Nineveh,	9
38 Coatsville,	5	177 McVeytown,	6	290 Florence,	4
43 Parksburg,	5	182 Manayunk,	6	295 Lockport,	5
46 Penningtonville,	3	187 Newton Hamilton,	6	297 Bolivar,	2
50 Gap,	4	190 Mount Union,	3	302 Blairsville Intersect'n,	5
53 Kinser's,	3	193 Mapleton,	3	Blairsville,	
56 Lemonplace,	3	196 Mill Creek,	3	306 Hillaide,	4
61 Bird in Hand,	5	201 HUNTINGDON,	5	310 Derry,	5
65 LANCASTER,	7	208 Petersburg,	7	316 Latrobe,	4
69 Dillerville,	1	211 Barree,	3	317 BEATT'S	2
74 Landisville,	5	214 Spruce Creek,	3	324 Greensburg,	7
80 Mount Joy,	6	218 Birmingham,	4	327 Hadebaugh's,	3
86 Elizabethtown,	6	221 Tyrone,	3	332 Manor,,	5
95 Middleton,	9	225 Tipton's	4	334 Irwin's,	2
98 Highspire,	3	227 Fortoria,	2	339 Stewart's,	5
104 HARRISBURGH,	6	229 Bell's Mill,	2	344 Brinton's,	5
109 Rockville,	5	235 Altoona,	6	349 Wilkinsburgh,	5
114 Cove,	5	242 HOLLIDAYSBURG INT.,	7	351 Liberty,	2
118 Duncannon,	4	246 Plane No. 9,	4	355 PITTSBURGH,	4

PASSENGERS CHANGE BAGGAGE CHECKS.

OHIO AND PENNSYLVANIA RAILROAD.

<i>Miles.</i>	<i>Dist. Betw. Stas.</i>	<i>Miles.</i>	<i>Dist. Betw. Stas.</i>	<i>Miles.</i>	<i>Dist. Betw. Stas.</i>
361 Courtney's,	5	449 Louisville,	6	552 Iberia,	7
365 Haysville,	4	455 Canton,	6	559 Gilead,	7
376 Sewickley,	2	463 MASSILLON,	8	565 Cardington,	5
399 Shousetown,	2	470 Lawrence,	7	571 Oxford,	7
372 Economy,	3	474 Fairview,	4	579 Delaware,	8
375 Baden.	3	478 Orrville,	4	586 Orange,	7
378 Freedom,	3	481 Paradise,	3	572 Worthington,	6
380 Rochester,	2	489 WOOSTER,	8	602 COLUMBUS,	10
383 New Brighton,	3	495 Millbrook,	6	616 West Jefferson,	14
393 Darlington,	10	499 Clinton,	4	627 Loudon,	13
399 Enon,	6	505 Lakeville,	6	643 Selma,	16
402 Palestine,	5	510 Loudonville,	5	649 Cedarville,	8
409 Bull Creek,	5	516 Perryville,	6	657 Xenia,	8
414 Columbiana,	6	522 Lucas,	6	664 Spring Valley,	7
420 Franklin,	4	527 MANSFIELD,	5	671 Corwin,	7
424 Salem,	5	534 Spring Mill,	7	677 Oregon,	6
429 Damascus,	3	542 CRESTLINE,	8	690 Deerfield,	13
432 Smithfield	3	CLEVE. COL. & CIN. RAIL ROAD.		705 Miamiville,	15
437 ALLIANCE,	5			712 Plainville,	7
443 Strasburg,	6	545 Gallon.	3	722 CINCINNATI,	10

Philadelphia and Reading Railroad.

PASSENGER TRAIN TIME TABLE.

Leave Philadelphia from the Depot, Broad and Callowhill Street, at
7½ A. M., and 3½ P. M. Daily Except Sundays, when an
Excursion Train leaves at 7½ A. M. Returning
leaves Pottsville at 4 P. M.

UP TRAINS.			DOWN TRAINS.		
STATIONS.	Exp's Morn.	Way Aft'n.	STATIONS.	Way Morn.	Exp's Aft'n.
Leaves PHILADELPHIA,	7.30	8.30	Leaves POTTSVILLE,	7.30	8.30
Passes Schl. Viaduct,	—	8.41	Passes MT. CARBON,	7.37	8.37
“ Manayunk,	—	8.50	“ SCHL. HAVEN,	7.46	8.45
“ Conshohocken,	—	4.05	“ Orwigsburg,	7.57	—
“ Norristown,	—	4.12	“ Auburn,	8.05	—
“ Port Kennedy,	—	4.21	“ PORT CLINTON,	8.20	4.10
“ Valley Forge,	—	4.26	“ Hamburg,	8.30	—
“ PHOENIXVILLE,	8.31	4.41	“ Mohrsville,	8.48	—
“ Royer's Ford,	—	4.51	“ Althouse's,	8.58	—
“ Limerick,	—	4.56	“ READING,	9.10	4.51
“ POTTSWOWN,	8.58	5.13	“ Birdsboro,	9.22	—
“ Douglassville,	—	5.22	“ Douglassville,	9.41	—
“ Birdsboro,	—	5.33	“ POTTSWOWN,	9.51	5.30
“ READING,	9.34	6.00	“ Limerick,	10.04	—
“ Althouse's,	—	6.25	“ Royer's Ford,	10.08	—
“ Mohrsville,	—	6.30	“ PHOENIXVILLE,	10.18	5.56
“ Hamburg,	—	6.48	“ Valley Forge,	10.29	—
“ PORT CLINTON,	10.17	6.58	“ Port Kennedy,	10.34	—
“ Auburn,	—	7.11	“ Norristown,	10.44	—
“ Orwigsburg,	—	7.19	“ Conshohocken,	10.51	—
“ SCHL. HAVEN,	10.43	7.27	“ Manayunk,	11.06	—
“ MOUNT CARBON,	10.52	7.36	“ Schl. Viaduct.	11.18	—
Arrives at POTTSVILLE,	11.00	7.45	Arrives at PHILAD'A.	11.30	7.00

STAGE CONNEXIONS.

At PHOENIXVILLE, with Express and Way Trains, for Yellow Springs, &c.
At POTTSWOWN, with Express Trains, for Boyertown, Allentown, &c.
At READING, with Express Trains, for Lebanon, Harrisburg, Bernville, Jonestown, &c.
At POTTSVILLE, with Express Trains, for Northumberland, Sunbury, Danville, Cata-
wissa, &c.

RAILROAD CONNEXIONS.

At PORT CLINTON, to Tamaqua, thence by Stage to Mauch Chunk, Wilkesbarre, Lacka-
wanna, Hazleton, &c.
At SCHUYLKILL HAVEN, to Minersville, Tremont, &c.
At MOUNT CARBON, to Tuscarora, Middleport, &c.

Philadelphia and Reading Railroad.

PASSENGER FARES AND DISTANCES.

UP TRAINS.				DOWN TRAINS.			
Dist.	From Philad ^a to	FARES.		Dist.	From Pottsville to	FARES.	
		No. 1	No. 2			No. 1	No. 2
3½	Schl. Viaduct,	.15	.10	1	MOUNT CARBON,	.05	.05
7	Manayunk,	.20	.15	4	SCHL. HAVEN,	.15	.10
13½	Conshohocken,	.80	.25	7	Orwigsburg,	.20	.15
17	Norristown,	.40	.30	10	Auburn,	.80	.25
21½	Port Kennedy,	.65	.50	15	PORT CLINTON,	.45	.35
23½	Valley Forge,	.70	.60	18	Hamburg,	.55	.45
27½	PHENIXVILLE,	.80	.65	25	Mohrsville,	.75	.60
32	Royer's Ford,	.95	.80	27	Althouse's,	.80	.65
34	Limerick,	1.05	.85	35	READING,	1.05	.85
40	POTTSTOWN,	1.20	1.00	44	Birdsboro,	1.30	1.10
44½	Douglassville,	1.35	1.10	48½	Douglassville,	1.45	1.20
49	Birdsboro,	1.50	1.25	53	POTTSTOWN,	1.60	1.30
58	READING,	1.75	1.45	59	Limerick,	1.75	1.45
66	Althouse's,	2.00	1.65	61	Royer's Ford,	1.80	1.50
68	Mohrsville,	2.05	1.70	65½	PHENIXVILLE,	1.95	1.65
75	Hamburg,	2.25	1.90	69½	Valley Forge,	2.05	1.70
78	PORT CLINTON,	2.35	1.95	71½	Port Kennedy,	2.10	1.75
83	Auburn,	2.50	2.10	76	Norristown,	2.35	1.95
86	Orwigsburg,	2.60	2.15	79½	Conshohocken,	2.45	2.00
89	SCHL. HAVEN,	2.70	2.20	86	Manayunk,	2.55	2.15
92	MOUNT CARBON,	2.75	2.25	89½	Schl. Viaduct.	2.65	2.20
93	POTTSVILLE,	2.75	2.25	93	PHILADELPHIA.	2.75	2.25

Way Trains stop at all the points stated: EXPRESS Trains only at those Stations in SMALL CAPITALS, and *positively* at no others.

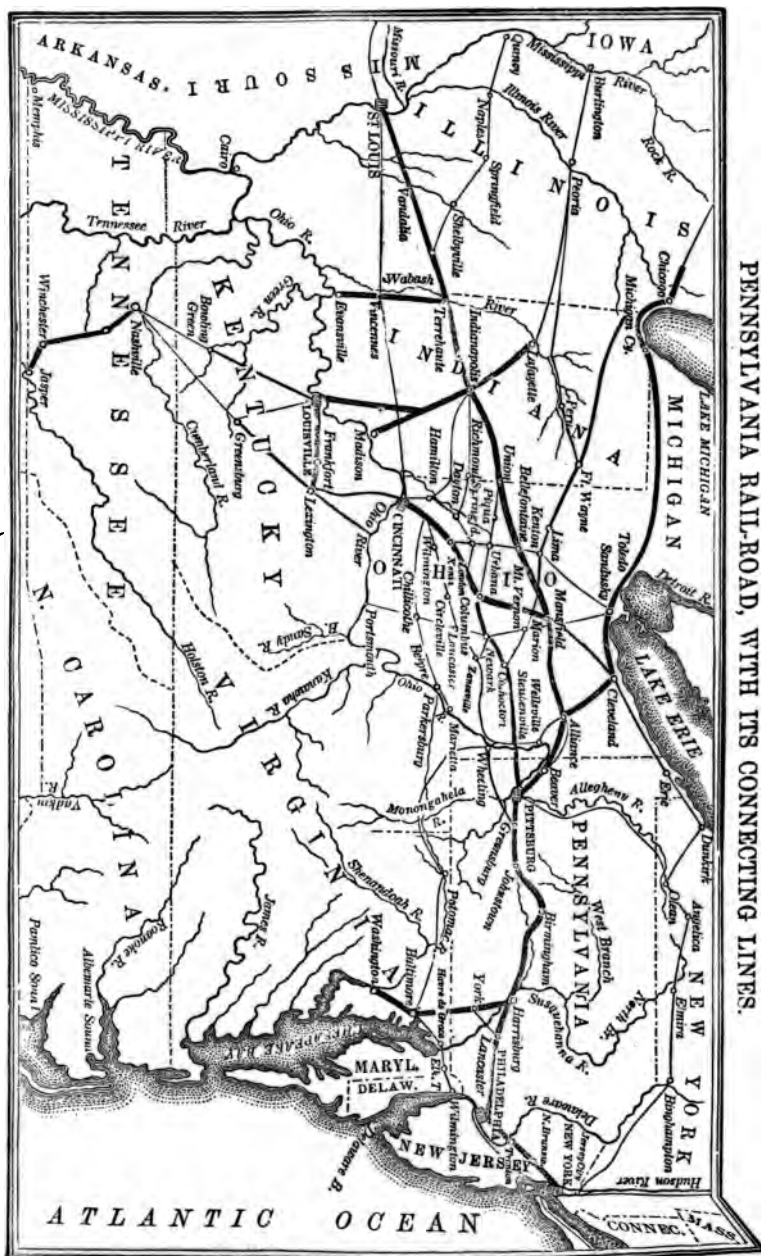
All Passengers will purchase their tickets before entering the cars.

Fifty pounds of Baggage are allowed each Passenger.

Passengers are strictly forbidden to stand outside, on the Platforms, while the cars are in motion.

Passengers waiting for Way Trains, at Way Points where there is no Railroad Agent, will signal the approaching Trains, otherwise they will not stop.

PENNSYLVANIA RAIL-ROAD, WITH ITS CONNECTING LINES.





A WORD BEFORE WE GO.

IN all parts of Europe the traveller is supplied with Guide-books, detailing, for his special information and satisfaction, the leading features of all objects of interest on his route. There is not an antiquated castle, a battle-field, a mountain, or a river, but has its peculiar points revealed for the entertainment of the stranger, as he rambles along from place to place. No doubt this materially adds to the interest and subsequent *value* of travel; and probably constitutes one of the paramount attractions of a tour in Europe, since all its incidents are thus permanently impressed on the mind.

In the United States no such conveniences exist; and this is probably one reason why foreigners generally misunderstand and misrepresent us—they are not *sufficiently informed* to give a correct estimate of our resources, peculiarities, and institutions. They hastily pass over our railways and rivers, and, for the want of suitable printed-guides, return as profoundly ignorant of the routes traversed as they were at the starting-point—for seeing is not *understanding*.

In her physical aspect and resources, Pennsylvania is pre-eminently the most interesting State in the Union—yet, for the want of *popular descriptions* and references, her real character is comparatively obscured from the public view. The most intelligent individual may make the tour from the Delaware to the Ohio by railroad, and yet be unable to identify one-half the towns, or mountains, or streams, or otherwise explain correctly the prominent local characteristics of the route traversed. Thousands of persons, of fortune and leisure, owing to this evil, are intimidated from travelling; while many proceed direct to Europe, before visiting the objects of interest in their own immediate land.

It was as much with the hope of converting our time to a useful pur-

pose, as receiving a reasonable compensation for it, that we undertook to sketch, in a sprightly and popular way, some of the prominent features of our time-honoured Commonwealth. If we have collected together, in tolerable order, a mass of matter that will relieve, to some extent, the fatigue and monotony of travel, our main object has been attained.

We may add, that over seventeen hundred dollars have been expended for pictorial illustrations, some of which we can point to as fair specimens of the art. During the particular time we were engaged in the preparation of these pages, however, an unusual activity prevailed among our best wood engravers, in consequence of large orders from the Government. We were, therefore, in several instances, forced to employ artists of ordinary talent—though, upon the whole, we think the reader will find little to complain of under this head.

The matter is, what it purports to be, off-hand, and no particular credit is claimed or expected for it. We have profited from the works of others to a greater extent than we should, had our time been less limited. Our acknowledgments are due to the works of the late Prof. Richardson, and to those of Mr. Day, Mr. Trego, and others, from which the matter not strictly original has been mainly extracted. With these explanations our work is done.

E. B.

N. B.—It is proper to add, that not having corrected the latter portion of this work as it was passing through the press, some errors appear which would not otherwise have occurred.

LOCOMOTIVE SKETCHES

WITH

PEN AND PENCIL.

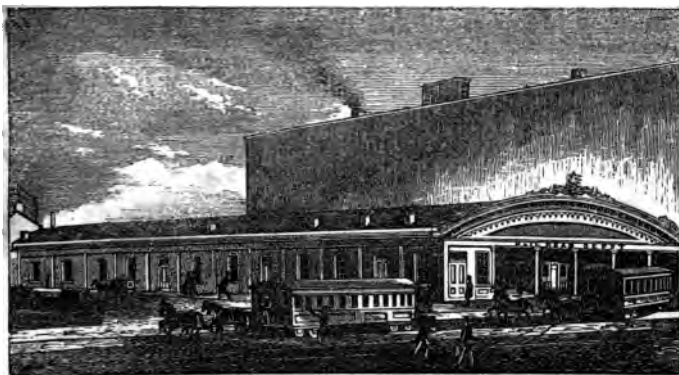
Philadelphia to Pittsburgh.

No more we sing, as they sang of old,
To the tones of the lute and lyre,
For lo! we live in an Iron Age—
In the age of Steam and Fire!
The world is too busy for dreaming,
And hath grown too wise for War:
So, to-day, for the glory of Science,
Let us sing of the *Railway Car*!
The golden Chariots of ancient Kings
Would dazzle the wondering eye,
And the heads of a million slaves might bow
As the glittering toy rolled by;
But this is the *Car of the People*,
And before it shall bow all Kings:—
Be they warned when they hear the shrieking
Of the Dragon with Iron Wings!



AND I have a long journey before us—three hundred and sixty-three miles! But we have an iron horse, and his fiery breath never fails. The first mile of our journey is confined to the widest street in Philadelphia, and to a railroad constructed at its expense. Messrs. Bingham & Dock, forwarding merchants, having leased the railroad belonging to the State, have erected a handsome depot at the corner of Schuylkill 5th

and Market sts. Passengers for Columbia, &c., take the cars here. We next pass the City Gas Works, situated on the Schuylkill. They



PHILADELPHIA AND COLUMBIA RAILROAD DEPOT.

are the most complete in their structure and arrangement of any similar establishment in the country. They were commenced in 1835, with some doubt as to the practicability of the undertaking, in an economical view. The entire area now occupied by the works is nearly eight acres, with a front on the Schuylkill of 800 feet. A high standard of illuminating quality of gas has been adopted, by the use of the proper varieties of coal, and the admixture of resin when they fall below the prescribed standard. The fat bituminous coals of our own State are principally used, with some samples of pure Cannel coal, some of it imported and some obtained from the extensive beds of Virginia, as well as those lately discovered in our own State, which, it seems, has almost every variety of coal known anywhere on the globe. The standard quality of the gas is that of twenty candle light—in other words, the light of an argand burner, consuming four feet of gas per hour, is equal to that of twenty sperm candles, moulded six to the pound. This high quality is attained by the use of our own coals alone, without the addition of resin or any other bituminous matter. After the bitumen is extracted from the coal, the coke is sold. The quantity of gas consumed by the city proper (exclusive of the adjoining districts, two of which have extensive gas works of their own,) for the year 1851, was over one hundred and eighty-two millions of cubic feet. The maximum production of the works is about 887,000 cubic feet every twenty-four hours—or, converted into gallons, some-

thing over seven and a half millions, which is about the same amount of water daily consumed during the summer season.

The extent of main-pipes laid down is equal to ninety-five miles. The number of meters is nearly ten thousand, and the whole number of customers about the same—employing a total number of lights of over one hundred and fifteen thousand, exclusive of about sixteen hundred in the streets, squares, and market-houses of the city. The total length of the pipes is about one hundred and twenty-six miles. A larger gas establishment is now about being erected a short distance from the present works, to which these will be transferred, as their productive capacity is too small to supply the increasing demand of the city, which exclaims with Goethe, "Light—more light!" The new works will be erected at Point Breeze, on the Schuylkill, and will embrace an area of some seventy acres.



MARKET STREET BRIDGE.

A few yards from the gas works we pass over the Market Street Bridge, one of the finest and most substantial structures in the United States. One side of it is appropriated to the exclusive use of the Railroad, and has a double track laid down upon it. All the

freight and passenger-cars passing over the railroad, are hauled to and from the city by horses, for which purpose a large number are employed. The other side of the bridge is used for the passage of horses and vehicles—while, for foot-passengers, there is an outside-walk, from which a fine view of the Schuylkill is obtained. A short distance below we can see the Blockley Almshouse, a large and elegant establishment, whose external appearance indicates anything else than the abode of poverty and misfortune. But distance, the cheat, “gives enchantment to the view,” which an inspection of its interior features would soon dispel. The building consists of two thousand feet in front, three stories high, ornamented in the centre with a stately Tuscan portico, supported by six massive columns. It has accommodations for a vast number of inmates—there being now within its walls not less than two thousand, supported at an average weekly expense of 104 cents each. The house of employment connected with it yields annually about \$22,000 worth of manufactures, and the farm nearly \$15,000 worth of produce. The children’s department of this institution embraces, at present, three hundred and sixty-five boys and over fifteen hundred girls—supported at an annual cost of near \$70,000. The entire annual expense of the whole establishment may be stated at \$165,000—including the insane department, in which there are some three hundred and fifty patients. The whole cost of supporting the poor of the city and county of Philadelphia, for the year 1851, is stated at \$228,977.

Were half the power that fills the world with terror—
Were half the wealth bestowed on *rum* and courts—
Given to redeem the human mind from error,
There were no need of *poor-houses* and *forts*!

Upon emerging from the bridge, we enter the borough of West Philadelphia, with its mud and dust, and jim-crack cottages. It has a large and rapidly increasing population, which is principally composed of those who conduct business in the city, but do their sleeping out here—hence the dull, drowsy appearance of the place.

Hitched to our “loco-snorter,” we wind along, for a short distance, the western bank of the Schuylkill, catching, here and there, a glance at some attractive object in the distance, as the Girard College, Fairmount Water-works, &c. A deep cut finally obstructs the view, and the railroad soon after plunges into the midst of the narrow patches,

the sweet little gardens—(blooming with roses and cabbages)—and cozy cottages, so characteristic of the suburban districts of populous cities; and then pursues its way among the broad rich acres of the farmer. Rich!—no. Not rich, nor yet sterile;—but rather like a dismissed Irish servant, without a “cha-ractur.” The soil is too clayey to be fertile, and the swelling fields and grazing cattle deny its barrenness. That it is not well drained is certain—that such soils greatly need it, we will attach our hand and seal. The truth is, there is a superabundance of manure expelled from the city, and it naturally finds its way here, where it is needed; and thus, for ten or more miles, we traverse a region of agriculture not supported by the usual agricultural economy—but principally devoted to vegetables and fruits, for which it receives from the *city* the means to uphold its limited productive capacity.

Eleven miles from Philadelphia—(three hundred and fifty-two from Pittsburg,) is WHITE HALL—(which, by the way, was brown,—but now, in fact, is neither white nor brown, for it burned down some years ago, and has not yet been rebuilt.) It was a fine hotel, much resorted to by Philadelphians—*why*, we cannot tell. Pure air! Fudge! Talk of pure air in a clay-flat like this—as well talk of raising potatoes in a snow-bank. Go to the mountains for pure air—go to Pottsville, six or eight hundred feet above the Delaware, or go with us to the cloud-capped summits of the Alleghany, and you shall taste pure air, fresh from heaven.

Oh! let us go and breathe our woe
 In Nature's kindly ear,
 For her soft hand will ever deign
 To wipe the mourner's tear;
 She mocks not, tho' we tell our grief
 With voice all sad and faint,
 And seems the fondest while we pour
 Our weak and lonely plaint.
 Oh! let us take our sorrows
 To the bosom of the hills,
 And blend our pensive murmurs
 With the gurgle of the rills;
 Oh! let us turn in weariness
 Towards the grassy way,
 Where skylarks teach us how to praise,
 And ringdoves how to pray;

And there the melodies of Peace,
That float around the sod,
Shall bring back hope and harmony
With the sweet voice of God.

THE EAGLE HOTEL, (seventeen miles from Philadelphia) is chiefly remarkable as being one of the oldest inns in the State. The turnpike from Philadelphia to Lancaster, sixty-two miles in length, was commenced in 1792, and finished two years after, at a cost of nearly \$500,000. It is probably the first improvement of the kind ever commenced in the United States. The system of turnpikes rapidly extended a few years after the completion of this enterprise, which was subsequently extended to Pittsburg, as well as beyond the State line into Ohio, and also in the east into New Jersey—thus forming a continuous turnpike road of nearly four hundred miles. A large number of similar roads, radiating from the main thoroughfare, soon after followed, so that the State was placed in admirable condition for travelling by stage, as well as for transporting, in Conestoga teams, the merchandize



CONESTOGA TEAM AND STAGE-COACH.

destined for the interior. The extensive travel thus created and concentrated on this once splendid thoroughfare largely increased the number of the inns. Among these, several were particularly noted in their day for the extent of their business and the style with which they were conducted, among which were the Eagle, already mentioned, the Paoli, kept by the late Gen. Evans, and the Ship, by the late John Bowen. These hotels had, and still have, large and splendid farms con-



nected with them, and were conducted with great profit to the proprietors. There were a large number of other inns intended for the accommodation of the wagoners—most of which, after the commencement of the main line of railway and canal, were discontinued—the ponderous Conestoga team being entirely superseded by the canal boat and railway car. The turnpike, previous to the loss of its trade, presented a busy scene—an almost unbroken procession of these wagons, each of them drawn by six large strong horses, and many of the teams having a row of bells hanging over the collar of each horse. The wagoners got up a song upon the loss of their “occupation,” a verse of which is all we can “recommemner”—

Oh, its once I made money by driving my team,
But now all is hauled on the railroad by steam.
May the devil catch the man that invented the plan,
For its ruined us poor wagoners, and every other man.

The “every other man” referred to were probably the innkeepers aforesaid. But really the railway *did*, at the outset, entail a serious loss along the principal line of turnpikes, and even now it exhibits a wreck that is rather mournful to contemplate. Not only have the Conestoga teams disappeared, but the stage—alas! the stage-horn no longer is heard—the bounding wheels no longer rattle over the white compact road.

LOCOMOTIVE SKETCHES.

We hear no more the clanking hoof,
 And stage-coach rattling by;
 For the steam-king rules the travelled world,
 And the pike is left to die.
 The grass creeps over the flinty path,
 And the stealthy daisies steal
 Where once the stage-horse, day by day,
 Lifted his iron heel.

No more the weary stager dreads
 The toil of the coming morn;
 No more the bustling landlord runs
 At the sound of the echoing horn;
 For the dust lies still upon the road,
 And the bright-eyed children play,
 Where once the clattering hoof and wheel
 Rattled along the way.

No more do we hear the cracking whip,
 Or the strong wheels' rumbling sound;
 And ah! the water drives us on,
 And an iron horse is found!
 The coach stands rusting in the yard,
 And the horse has sought the plough;
 We have spanned the world with an iron rail,
 And the steam-king rules us now!

The old turnpike is a pike no more—
 Wide open stands the gate;
 We've made a road for our horse to stride,
 Which we ride at a flying rate;
 We have filled the valleys and levelled the hills,
 And tunneled the mountain side;
 And round the rough crag's dizzy verge,
 Fearlessly now we ride!

On—on—on—with a haughty front!
 A puff, a shriek, and a bound:
 While the tardy echoes wake too late
 To babble back the sound:
 And the old pike road is left alone,
 And the staggers seek the plough;
 We have circled the earth with an iron rail,
 And the steam-king rules us now!

The PAOLI, twenty-one miles from Philadelphia, was kept for many years by the late Gen. Joshua Evans, who formerly represented the county of Chester in Congress. He was truly a fine "old gentleman of the olden school." During the revolutionary movements in this vicinity, the house was occupied by Gen. Washington as his head quarters. About one mile and a half west is the house in which Gen. Anthony Wayne* was born. About the same distance, and nearly



GENERAL WAYNE'S RESIDENCE.

in the same direction, is the field of the memorable Paoli massacre. Wayne, himself, had charge of the American forces thus slaughtered

*Gen. Anthony Wayne was born in the township of Easttown, Chester Co., (about one and a quarter miles south of the Paoli tavern,) on the 1st Jan., 1745. He received a thorough education, and was particularly skilled in the mathematics. After leaving school he became a surveyor, and also paid some attention to astronomy and engineering, by which he attracted the attention of Dr. Franklin, who became his friend and patron. At the opening of the revolution he was a prominent member of the provincial Legislature. He entered the army in 1775 as colonel of a corps of volunteers, and was afterwards active on the northern frontier at Ticonderoga. Here he was made brigadier-general on the 21st Feb., 1777. In the battle of Brandywine he commanded the division of

with more than barbarous ferocity, which occurred on the night of the 20th September, 1777. Soon after the battle of Brandywine the two contending armies again met, on the 16th of September, near this place, and were about to engage in hostile proceedings, when a severe rain storm came on, materially injuring their powder, and otherwise rendering an attack from the Americans impracticable. Washington thereupon withdrew to the Schuylkill, some five miles northeast, and sent Gen. Wayne, with 1500 men, to join Gen. Smallwood, and annoy the rear of the enemy, who was posted near a Welsh Church, not far off, called Tredyffim. Wayne had encamped in a very retired position, near the present monument, and at some distance from the public roads. The British General, receiving information from traitors who knew every defile in the neighborhood, and every movement of the republican troops, detached Gen. Gray, a brave but desperate and cruel officer, to cut off Wayne's party. Stealing his way through the

Chadsford, resisting the passage of the column under Knyphausen with the utmost gallantry until near sunset, when, overpowered by superior numbers, he was compelled to retreat. At the battle of Germantown he evinced his wonted valor, leading his division into the thickest of the fight.

In all councils of war he was distinguished for supporting the most energetic measures. At the battle of Monmouth, he and Gen. Cadwallader are said to have been the only two general officers in favor of attacking the enemy. His conduct on that occasion elicited the special applause of Gen. Washington. His attack upon the fort at Stony Point, in July, 1779, an almost inaccessible height, defended by a garrison of six hundred men, and a strong battery of artillery, was the most brilliant exploit of the war. At midnight he led his troops with unloaded muskets, flints out, and fixed bayonets, and without firing a single gun, completely carried the fort, and took five hundred and forty-three prisoners. In the attack, he received a wound, from a musket ball, in the head, which, in the heat of the conflict, supposing to be mortal, he called to his aids to carry him forward, and let him die in the fort. In the campaign of 1781, when Cornwallis surrendered, he bore a conspicuous part; and he was afterwards actively engaged in Georgia. At the peace of 1783, he retired to private life. In 1789 he was a member of the Pennsylvania Convention, and strongly advocated the adoption of the Constitution of the United States. In 1792, after Harmar and St. Clair had been repeatedly unsuccessful, Wayne took the command on the northwestern frontier, and by his wise and prudent measures, his excellent discipline and bravery, he gained the decisive battle of the Maumee, and concluded the war by the treaty of Greenville, in 1795. A life of peril and glory was terminated in Dec., 1796, in a cabin at Presqu'isle, then in the wilderness, and his remains were deposited, at his own request, under the flag-staff of

woods, and up the narrow defile below the Paoli, he drove in the American pickets, and rushed upon the camp. The assailants were received with several close and destructive fires, which must have done great execution, but the American troops were compelled by superior numbers to retreat. The number of Americans killed and wounded in this action, amounted to one hundred and fifty. Gen. Gray, it is said, had ordered his troops to give no quarter. Many victims were massacred with ruthless and savage barbarity, after resistance, on their part, had ceased. The cry for quarter was unheeded; the British bayonet did its work with unpitied ferocity. It is said by some that the enemy set fire to the straw in the camp, thus torturing many sick and wounded victims who were unable to escape the flames. The whole American corps must have been cut off, if Wayne had not preserved his coolness. He promptly rallied a few regiments, who withstood the shock of the enemy, and covered the retreat of the others. When this attack commenced, Gen. Smallwood was already within a mile of the field of battle; and had he commanded troops to be relied upon, might have given a very different turn to the night. But his raw militia, falling in with a party returning from the pursuit of Wayne, instantly fled in confusion. The neighboring farmers decently buried the dead, numbering fifty-three persons, in one common grave, at a spot immediately adjoining the scene of action. Some thirty-five years ago, a military company of Chester County, aided with the

the fort on the margin of Lake Erie. His remains were removed in 1809 by his son, Isaac Wayne, to Radnor churchyard, in Delaware county.

By direction of the Pennsylvania State Society of Cincinnati, an elegant monument was erected, of white marble, of the most correct symmetry and beauty.

South Front.—In honor of the distinguished military services of Major General ANTHONY WAYNE, and as an affectionate tribute of respect to his memory, this stone was erected, by his companions in arms, the Pennsylvania State Society of the Cincinnati, July 4th, 1809, thirty-fourth anniversary of the Independence of the United States of America; an event which constitutes the most appropriate eulogium of an American soldier and patriot.

North Front.—Major General ANTHONY WAYNE, was born near the Paoli, Chester county, State of Pennsylvania, A. D. 1745. After a life of honor and usefulness, he died in December, 1796, at a military post on the shore of Lake Erie, Commander-in-chief of the army of the United States. His military achievements are consecrated in the history of his country, and in the hearts of his countrymen. His remains are here interred.



PAOLI MONUMENT.

individual subscriptions of the citizens, erected a monument over the remains of the gallant men. It is composed of white marble, and is a pedestal surmounted by a pyramid. Upon the four sides of the body of the pedestal are appropriate inscriptions. The grounds enclosed, embrace about thirty-six acres, rising to a gentle elevation, and presenting the form of the letter L. The monument is situated in the angle of the plot, surrounded by a heavy stone-wall, and shaded with stately trees.

The neighborhood of Paoli is full of interesting incidents connected with the revolution. A few miles to the right is Valley Forge, where Washington and his army were encamped during the severe winter of 1777. Here, half-naked, hungry, and sick, a large number of the soldiers died. The general aspect of the revolution then seemed dark and gloomy, and scarcely a ray of hope for future success was left. The subsequent campaign, however, dispelled many of these dark clouds, and after the affair at Monmouth, new hopes were instilled into the hearts of the patriots.

The two stations between Paoli and Downingtown are without interest. DOWNINGTOWN, thirty-three miles from Philadelphia, though a small village, is one of the oldest settlements in the State. The place and the vicinity was originally settled by English emigrants from Birmingham. The present occupants live, for the most part, upon property that has been in their families for many gene-

rations. The brick house a few rods west of the railroad depot was erected in 1728. It was then the first house (excepting a few log cabins) of the pioneers. Downingtown derives its name from Thomas Downing—not, as might be inferred, from the celebrated Major Jack Downing, of Downingville. Thomas Downing bought the land from the earlier settlers, in 1730, and soon after built a mill and several other improvements upon it, in virtue of which it assumed his name. It is a village of neat cottages and green foliage, having a strictly rural aspect. Its length is over a mile, stretching along the turnpike, the houses standing a few yards back from the road-side, surrounded with neat gardens, trees and shrubbery. Even the stores, and other places of business, are partially hidden amidst the profusion of foliage. The people are plain and sober-minded, but though very intelligent, are by no means remarkable for enterprise. Nevertheless, there is a considerable number of mills and factories in the vicinity, deriving support entirely from the great agricultural resources surrounding them, for Downingtown, situated in what is called *the great valley*, is in the heart of the richest agricultural region in Pennsylvania. The great valley lies between two ranges of hills, running nearly parallel with each other, from the Schuylkill river to a point near the western boundary of the county. Extensive quarries of limestone are opened at points all along the valley, for the supply of lime to the adjacent country. In some parts of its range, this limestone is light-colored or white, semi-crystalline or granular, affording, where the layers are sufficiently thick and compact, a splendid marble for architectural and ornamental purposes. A large portion of the marble used in the construction of the Girard College buildings was obtained in this vicinity. There is a quarry a short distance from Downingtown, where excavations have been made beyond a hundred feet in depth. The east branch of the Brandywine creek, a beautiful stream meandering along its grassy banks in the valley, passes through Downingtown, and furnishes the driving power to a large flour mill and to iron works. The railroad crosses this stream by the bridge a short distance below the town.

Eleven miles above Downingtown, and forty-one from Philadelphia, is COATESVILLE. This place is, in many respects, similar to Downingtown, though its situation is rather more picturesque—having, on its northern side, the range of hills which border the great valley. The railroad here crosses the west branch of the Brandywine, over a bridge

towering eighty feet in the air, and stretching across a chasm nearly nine hundred feet in width. This stream affords a fine water-power, which is extensively used for flour, paper, and other mills, as well as factories of various descriptions, in the vicinity of Coatesville. Coatesville was originally settled by a family bearing that comfortable name, and dates its origin as far back as 1725.

Four miles above is PARKESBURG, which derives all its importance from the machine shops erected here by the State, for the repair and manufacture of the running machinery of the railroad.* A large number of hands are employed in these shops, which imparts an active appearance to the place.

PENNINGTONVILLE, forty-eight miles from Philadelphia, is the last station in Chester County. The place is a growing one, surrounded with an industrious farming population.

The territory now included in Chester County, together with much land lying in other counties, was honorably purchased of the Indians by William Penn, and was conveyed in several distinct deeds. The first, bearing date June 25, 1683, and signed by an Indian called Wingebone, conveys to William Penn all his lands on the west side of the Schuylkill, beginning at the first falls, and extending along and back from that river, in the language of the instrument, "so far as my right goeth." By another deed of July 14th, 1683, two chiefs granted to the proprietary the land lying between the Chester and Schuylkill Rivers. From Kikitapan he purchased half the land between the Susquehanna and Delaware, in September, and from Malchalola, all lands from the Delaware to Chesapeake Bay, up to the Falls of the Susquehanna, in October; and by a deed of July 30th was conveyed the land between Chester and Pennypack Creeks. This last instrument is a quaint piece of conveyancing, and will show the value attached by the natives to their lands:

"This indenture witnesseth that we, Packenah, Jackham, Sikals, Portquesott, Jervis Essepenaick, Falktrug, Porvey, Indian kings, sachemakers, right owners of all lands from Quing Qingus, called Duck cr., unto Upland, called Chester cr.,

* This road commences at the Market Street Bridge, in Philadelphia, and pursues a western course, by Downingtown and Lancaster, to Columbia, on the Susquehanna River, where it connects with the Eastern Division of the Pennsylvania State Canal. Formerly it had two inclined planes, one at Philadelphia and the other at Columbia; but both have been avoided by laying down new tracks, with but slight gradients—the highest not exceeding thirty-five feet to the mile. The motive-power on this road, as also on the Alleghany Portage Road, is furnished by the State, for which a charge is made in addition to the road toll. This road was among the earliest completed in the country—having been opened in April, 1834. Cost, \$3,983,802.

all along the west side of Delaware river, and so between the said creeks *backwards as far as a man can ride in two days with a horse*, for and in consideration of these following goods to us in hand paid, and secured to be paid by William Penn, proprietary of Pennsylvania and the territories thereof, viz: twenty guns, twenty fathoms match coat, twenty fathoms stroud water, twenty blankets, twenty kettles, twenty pounds of powder, one hundred bars of lead, forty tomahawks, one hundred knives, forty pair of stockings, one barrel of beer, twenty pounds of red lead, one hundred fathoms of wampum, thirty glass bottles, thirty pewter spoons, one hundred awl blades, three hundred tobacco pipes, one hundred hands tobacco, twenty tobacco tongs, twenty steels, three hundred flints, thirty pair of scissors, thirty combs, sixty looking-glasses, two hundred needles, one skipple of salt, thirty pounds of sugar, five gallons of molasses, twenty tobacco boxes, one hundred jewaharps, twenty hees, thirty gimlets, thirty wooden screw boxes, one hundred and three strings of beads—do hereby acknowledge, &c., &c. Given under our hands and seals, at New Castle, 2d of the eighth month, 1685."

Chester County received its name in the following manner: When Wm. Penn first arrived at Upland, now old Chester, turning round to his friend Pearson, one of his own society, who had accompanied him in the ship *Welcome*, he said, "Providence has brought us here safely. Thou hast been the companion of my perils. What wilt thou that I should call this place?" Pearson replied, "*Chester*, in remembrance of the city from whence I came." Penn also promised that when he divided the territory into counties, he would call one of them by the same name. In the beginning of the year 1683, the governor and council established a seal for each of the counties, assigning to Chester the *plough*—the device still indicative of the thrifty agricultural character of the inhabitants.

Before the close of the year 1682, no less than twenty-three ships had arrived in Pennsylvania from Europe, conveying more than two thousand souls. They were principally Friends, who had purchased allotments, and came to occupy them. Many were of opulent families, whom no common consideration could have prevailed upon to leave their homes; and whom, perhaps, nothing but the goad of unceasing persecution could have driven entirely away. All were industrious, discreet, and prudent, and every way fitted to render a colony prosperous, flourishing, and happy. Not an inconsiderable number of these settled in Chester County. Some had taken the precaution to bring with them frames of houses and other conveniences; some, who arrived early, were enabled to erect temporary cabins of logs, and some were compelled to pass the winter in rude shanties, or caves dug in the side of a hill.

At the time the European emigrants first settled in the county, it was principally overshadowed by forests, with here and there a small patch cleared by the natives for the purpose of raising corn. Owing to the Indian practice of firing the woods once or twice in a year, the small bushes and timber were killed in their growth, and of course the forests were but thinly set. One of the first settlers said, that at the time of his first acquaintance with the country, he could

have driven a horse and cart from one of its extremities to the other, in almost any direction without meeting with any material obstruction.

The early settlers of Chester County were from different parts of Europe, England, Wales, Ireland, Holland, and Germany. Of these, the English, as they arrived first, seated the southern parts adjoining the Delaware, and a few took up lands bordering upon the Maryland line. They were principally from Sussex, (the residence of Wm. Penn,) Cheshire, Derbyshire, Leicestershire, and Northamptonshire. The Welsh occupied the eastern parts, and settled in considerable numbers. The oppression which they suffered in their native country from the tyranny of the nobles first determined their emigration, and the happy consequences resulting to the first adventurers, from their change of situation, induced many to follow them. Soon after their arrival here they generally joined the society of Friends, and established meetings. Wm. Penn once paid them a visit, but as they neither understood his language, nor he theirs, they could only enjoy the satisfaction of seeing him. It is said, however, that they were highly gratified with this mark of his attention and good-will, and took even their little children with them to the meeting which he attended, that they also might have a sight of the great proprietor. Rowland Ellis was one of their most conspicuous characters.

The Irish emigrants located the north and western sections of the county. Those who first arrived were generally men of some standing and character, and were welcomed as an accession of virtue and intelligence to the little community. They were almost all Protestants, and many of them Friends. The Dutch and Germans, who are now the principal land-holders in many of the northern townships, are not the descendants of the original settlers of those parts. Within the memory of those now living, they formed the smallest portion of the population in those very districts where they are now the most numerous. Their untiring industry and stubborn perseverance seem to have peculiarly qualified them to become successful tillers of a soil such as obtains there—fertile, indeed, but hard of cultivation; and the posterity of the Irish, who are not so remarkable for the patient qualities of character, seem to have gradually relinquished to them the possession of the land.

For a number of years the improvements in those parts of the county seem to have been much in the rear of those in other parts of the county. The log cabins of the early pioneers were still prevalent as late as 1760. This was partly owing to the uncertain tenures by which the real estate was held.

Sout-Drivers.—This was a name given to a certain set of men who used to drive redemptioners through the country, and dispose of them to the farmers. They generally purchased them in lots consisting of fifty or more, of captains of ships, to whom the redemptioners were bound for three years' service, in payment for their passage. The trade was brisk for a while, but at last was broken up by the numbers that ran away from their drivers. The last of the ignominious set disappeared about the year 1785. A story is told of his having been tricked by one of his herd. The fellow, by a little management, contrived to be

the last of the flock that remained unsold, and travelled about with his master. One night they lodged at a tavern, and in the morning the young fellow, who was an Irishman, rose early, sold his master to the landlord, pocketed the money, and marched off. Previously, however, to his going, he used the precaution to tell the purchaser, that though tolerably clever in other respects, he was rather saucy, and a little given to lying; that he had been presumptuous enough at times to endeavor to pass for master, and that he might possibly represent himself as such to him!

Chester County is remarkably rich in its mineral resources, and for *variety* and general usefulness for chemical purposes, it is probably not surpassed by any other region, of equal extent, in the United States. We have elsewhere observed that, at various points on the Schuylkill, above Valley Forge, there are extensive deposits of the ores of copper and lead. The formation containing them traverses nearly all the counties of Pennsylvania east of the South Mountain. Out-crops occur at various places between the Schuylkill and the Susquehanna, and mining operations are now being prosecuted with considerable spirit and vigor. Indeed, the copper had been worked in the northern slope of the Mine Ridge, in Lancaster County, for some time previous to the revolution, and the old shafts are now being cleared out with the view of again extending them. In Delaware County arrangements have also been made to mine copper, and that county may be said to be literally a copper region. The "barrens" of York county, bordering on the Susquehanna, contain no inconsiderable quantity of chrome, being a continuation, in detached basins, of the same formation so long and so successfully worked in Lancaster County, near the Maryland line. A portion of this extensive chrome region also extends into Chester County,—but its proximity to navigation in Lancaster has enabled the operators to drive a splendid business in raising it. The mineral, we may add, is sought after to obtain from it the chromic acid, for the preparation of the beautiful chrome-yellow used in painting and dyeing. Lancaster County is, we believe, the only spot in the United States where it is found to any extent, and large quantities of it are annually shipped to Europe. There is a variety of other valuable minerals found in parts of Chester, among which may be mentioned *asbestos*, *magnesites*, *amethyst*, *jasper*, *garnet*, *schorl*, *chalcodony*, *agate*, *sapphire*, *beryl*, etc. etc.

The early settlers of Chester, we have already mentioned, were Quakers, and the county is still under the influence of their principles

and social habits. Their religious creed has a tremendous influence upon the social economy of the people—regulating not only their course of action, but also their mode of thinking. There is little actual difference between their religious creed and that of Protestants generally;—but standing upon the broad platform that the greatest enemy of true religion is *pride*, and that, if not stoutly combated, it usurps the moral nature and sentiments of man, they wage a ceaseless war against this evil, and fortify themselves in every shape and form from its insidious approaches.

Pride still is aiming at the blest abodes,—
Men would be angels, angels would be gods.

Wm. Penn, in his work entitled “No cross, no crown,” lays down the principles which he professed, and combats, in good plain English, the follies and wickedness of the church, all having their origin in *pride*. Splendid church edifices, fashionable dress, and ostentatious show, high living and voluptuous ease, the swell of music and the excitements of worldly amusement—all are denounced as nourishing a family of evils which finally overwhelm the true fountain of revealed knowledge. He is right, no doubt of it. Pride—pride lies at the bottom of nearly all our social evils, and it is sheer folly to deny or attempt to palliate it. Pride governs the church—ergo, the church is corrupted by it.

The Quakers, therefore, opposing themselves to this monster, observe a simplicity in all their movements through life which requires the greatest self-denial. They are eternally at war with the flesh. Their houses, their churches—their dress, language, thought—all show the paramount object in view—simplicity. They do not care about churches—it matters not where they worship. They address themselves to the inward spirit which God gave them—it is that which moves them—the flesh—the body is the mere earthly tabernacle—the temporary dwelling-place of the immortal spirit. Thus quietly, and without the assistance of music or worldly machinery, they sit and worship; and no doubt it is the most rational and spiritual way.

The following engraving illustrates the simple but substantial character of their meeting-houses. It represents one of their oldest places of worship near the Brandywine. The interior consists of plain wooden benches, with high backs, cleanly scoured, and destitute of paint.



QUAKER MEETING-HOUSE.

The benches, with a large ten-plate stove, comprise the entire furniture of the house!

As we leave Chester County, and pass through the range of hills called the Mine Ridge, the great county of Lancaster, in all its glory, expands before the eye. An intelligent Englishman called this county the "garden of America," and a view of it from this position will fully justify the propriety of the compliment. It is, without doubt, the garden of this glorious Union, and there are few spots in this wide, wide world, which could present a nobler scene to the eye than is here afforded. The Mine Hill winds around the county from the Susquehanna in a north-east and south-west course, while the South Mountain, or Conewago hills, border it on the north—the district between presenting one broad basin of fertility, with numerous subordinate elevations, rolling out one after the other, with intervening valleys and streams. The broad fields, when laden with the ripening harvests, swell to and fro with the sweeping gales, like the dark-green waters of the ocean.

Heavens! what a goodly prospect spreads around,
Of hills, and dales, and woods, and lawns, and spires,
And glittering towns, and gilded streams, till all
The stretching landscape into smoke decays!

The whole broad scene gradually sinks into the dim, blue vapory outlines of the bold Kittatinny, which skirt alike the landscape and

the overarching firmament. The entire region of country between the Mine Ridge and the Conewago Hills, and between those hills and the Kittatinny, (called the great Cumberland valley,) presents one



continuous and almost unvaried scene of agricultural prosperity. The soil is naturally rich, as, in addition to the debris deposited over the surface by the decomposing matter of the higher lands, it is traversed at various points by extensive beds of limestone. The whole country is, therefore, in the highest state of cultivation; and in the economy which characterizes the general agricultural system, there is probably not a more prolific region in the United States. The farms are generally small—averaging about eighty acres each—and by a judicious division of the land, and rotation of crops, their high state of fertility is constantly maintained. The farms in the interior of the counties of Lancaster, Berks, Lebanon, and those of the eastern portion of the State generally, are more extensive than those situated along the lines of improvement—because, denied the ready access to market which is afforded to the latter, they are compelled to feed cattle during the winter, and thus consume the grain which could otherwise not be disposed of so profitably and conveniently. The cattle, or the great bulk of them, are purchased from western drovers during the autumn months, and being fattened in the winter, are sent to market in the spring, before western fat cattle arrive, and thus fair

prices are usually realized. By this means an abundance of manure is secured to the farm, and a fair price for the grain consumed is realized.

The farmers living near the city, and on the lines of railroad, turn their produce, for the most part, into the dairy, or dispose of their grain by the bushel. They also raise a larger proportionate amount of poultry, vegetables, and floral and horticultural products. These latter, however, do not receive the attention they deserve; and we think if some of our farms were exclusively devoted to the production and improvement of poultry, (a thing very much needed, and, at the same time, very easily effected,) in the same manner as the most of them now are devoted to the fattening of cattle, they would prove more profitable than under the usual monotonous routine of farming. The same may be said of vegetables, as well as of floral and horticultural plants generally. They are all too much neglected; and one reason is, probably, that the mass of the farmers are not competent to raise them in perfection, because they require more cultivated taste and scientific principles in their production than the ordinary grass and cereal crops.

Farming is, in fact, throughout Pennsylvania, little less than systematic labor—well organized, it is true; but still only a monotonous routine of physical toil, too seldom relieved by mental exercise or enjoyment. This is unfortunate. It is the result of old established prejudices, deeply-rooted in our German population, who, resisting every modern innovation, hold fast to the time-honored principles, precepts and examples of their forefathers, and regard it as a moral and social duty to “follow in their footsteps.” They, therefore, plough, plant, and reap, pretty much in the old way, without deviating to the right or left, but by industry, frugality, and close attention to their affairs, generally gather a competency, which is finally distributed amongst their children, who in turn travel over the same beaten track of agricultural life.

The system of cropping varies in different districts; the following, which is given by Mr. Trego, is one of the most common in this section of the State: A field which has been in pasture is ploughed up for Indian corn late in the fall, or, more usually, early in the spring. The corn is planted in the beginning of May, and well dressed and tended through the early part of summer. The corn is planted in straight rows, about two feet or more apart, and is hoed or ploughed

twice, to keep down the weeds. Sometimes pumpkins are sown with the corn. About the last of October the corn ripens and is gathered, yielding from thirty to fifty bushels per acre, and on rich soils frequently more. About the first of the following April the same field is again ploughed, and sown with oats, which is harvested towards the end of July, producing from twenty-five to fifty bushels to the acre. The oats' stubble is then ploughed in, and the field, being well manured, is sown with wheat in the latter part of September. Rye is frequently sown instead of wheat, where the soil is light and thin, or where it is not manured; and many farmers sow both wheat and rye. In February or March, clover or other grass seeds are sown on the wheat and rye, which grow among the grain until harvest. The wheat and rye are generally fit to cut early in July, and commonly yield from twenty to thirty-five bushels per acre. The field is by that time covered with young clover, which is left until the following summer, when it is cut for hay in June, and a second crop is used for pasture or gathered for seed in September. The field may be mown the following year, or pastured until it comes again in course for Indian corn. Some farmers prefer sowing their wheat on a field freshly broken up from the grass sod; some omit the crop of oats between the corn, and the wheat or rye; others take off the Indian corn early, and sow wheat or rye immediately after it. The mere order of succession in the different crops is not very important, provided that the farmer is careful not to exhaust his land by too frequent repetitions, or by neglecting to plough, manure and dress his fields in the best manner.

Besides the grains already mentioned, buckwheat, flax, barley, potatoes, turnips, beets, and many other articles are cultivated. Different modes of culture and tillage are practiced in different parts of the State, according as the variety of soil, climate, or situation renders it necessary or expedient. In the more elevated and colder districts, the cultivation of Indian corn is not very successful; but grass, oats, and potatoes thrive admirably. Scarcely a farm is to be found in any portion of the Atlantic Slope, without its apple orchard of choice and selected varieties. Pears, peaches, plums, cherries, and other fruits are abundant, and though many farmers are careful to obtain the finest kinds, yet there is scarcely sufficient attention bestowed in selecting and grafting fruit. The demand for good fruit, particularly apples, is annually increasing, and it will probably not be long before

it is abundantly supplied—especially as every quarter of the State appears to be well calculated for their growth. Heretofore the great bulk of the apples raised has been converted into cider, and on nearly all large farms the cider-press will be noticed as among their most prominent features. In Pennsylvania, among the Germans, particularly, there is a description of sauce called *apple butter*, and it is principally in the manufacture of this article that the cider and apples are consumed. In the rural districts apple butter is extensively used by every family—in fact, throughout the State, except in a few localities, its use is universal, and may be said to rank as one of the necessities of the table. The cider is boiled in large kettles, holding from thirty to forty gallons, into which apples, properly paired and quartered, are thrown—say two bushels of prepared apples to twenty-five gallons of cider. After six to eight hours boiling, during which the liquor is constantly stirred, it begins to thicken, and when reduced to a tolerable paste, it is taken from the fire, deposited in earthen jars, and after standing a few weeks, is of good flavour for use. Boiling apple butter, in the counties of Lebanon, Berks, Lehigh, portions of Lancaster, and other German counties, is made the occasion of social celebration and interchange of neighborly courtesies. The young men and women of the neighborhood are invited to spend the evening, and it is here that, for the lack of better opportunities, and without expensive dress or ostentatious show, the substantial graces of the sex are exhibited.

Agriculture constitutes, by far, the most important interest in Pennsylvania, notwithstanding her immense beds of coal and iron, and extensive manufactures. Every other interest, however important, is merely subordinate to this, and it is a source of congratulation that such is the fact, not only to this State, but to the entire Union. Removed from the excitements, turmoils, and selfish intrigues of the city, the farmers are, upon the whole, purer in sentiment, more patriotic in feeling, and more industrious, honest, and straightforward in their course through life, than any other class of people. It is not to be disguised that, in some of the higher and nicer points of education, they are often lamentably deficient; but when we come to weigh their substantial virtues with the vices that usually accompany superficial intelligence, especially in populous places, the vast superiority of their condition, as Christian and virtuous citizens, is strikingly exhibited. Their retired and comparatively isolated position in the

country, enables them to smother the spirit of pride and ostentatious show, which so often usurps good morals and supplants the better judgment of the town's people; and being thus rendered more simple-hearted and sober-minded, they are morally better men, and politically better citizens than any other class of people. The integrity of our agricultural population is to the political what the Alleghany Mountains are to the physical aspect of our glorious country—the *back-bone* of its prosperity. For while the one drains the country of its impurities, and pours forth its waters for the internal affairs of trade—purifying the atmosphere, and yielding metals which “subject all nature to our use and pleasure,” the other regulates the political atmosphere, and saves it from the extremes into which excited and densely populated regions would be sure to embroil it.

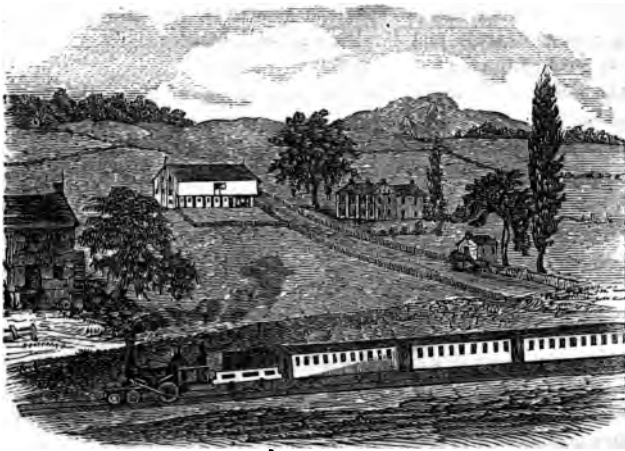
In ancient times, the sacred plough employed
The kings and awful fathers of mankind;
And some, with whom compared your insect tribes
Are but the beings of a summer's day,
Have held the scale of empire, ruled the storm
Of mighty war; then, with unwearied hand,
Disdaining little delicacies, seized
The plough, and greatly independent lived.

It was the misfortune of republican governments, in more ancient times, that they had no agricultural population to rely upon—or, rather, that they lacked the powerful levers which we are now using so successfully to carry out our representative system, viz., the press and the post-office. In ancient Greece, for instance, where existed a complete democracy, the agricultural population was entirely proscribed for the want of these tremendous civilizers. To exercise the elective privilege the voter had to repair to the capitol—such a thing as voting at home was never dreamed of, because there were no means to enable the citizen to give an expression of his principles or to inform him of the nature of political affairs. The popular strength was therefore concentrated in the capitol, instead of being distributed, as it is here, over “our boundless continent.” With these powerful instruments, the farmer in Oregon may exercise his political prerogatives with as much judgment and patriotism, as if he lived within a few miles of the capitol. The press is thus a conservator of intelligence, while the post-office is the distributor, and the two enable us

to carry out the most admirable representative system which the world has ever known; and so nicely do all its details harmonize with the local position, feelings and principles of our people, that probably no other form of government, no matter how liberal, would promote our happiness and prosperity, or give one-fourth the strength and national grandeur which now belong to the people of free America:

Land of the forest and the rock,
Of dark blue lake and mighty river,
Of mountain, rear'd on high to mock
The storm's career and lightning shock—
My own green land forever!

In passing through this splendid agricultural region, the stranger will particularly observe the neatness and order which characterize the general aspect of the scene of farming operations, the good fences, the substantial and comfortable buildings, and especially the imposing appearance of the barn. Nearly every large farm has a cluster



GENERAL APPEARANCE OF A LANCASTER COUNTY FARM.

of buildings, the most prominent of which is the barn, situated next to the mansion-house, around which are scattered wagon and carriage-sheds, corn-cribs, spring-house, wash-house, summer dining-house, etc.

with adjacent tenant house. The pride of a Pennsylvania farmer, however, is in his barn, and large sums of money are frequently expended in its erection. The structure is usually placed along side of a small hill, so that a four horse team may be driven into the barn floor without overcoming too steep a grade from the road, an arrangement equally desirable for other considerations. Barns are usually over one hundred feet in length, by about forty to sixty feet in depth—the loft and threshing-floor overarched by six or eight feet, the stables below forming a good shelter. Surprise is often expressed by strangers at the contrast generally presented between the appearance of the barn and the dwelling house—the former being comparatively more imposing than the latter. It is true the contrast often augurs unfavorably for the taste and personal convenience of the farmer; but there are circumstances governing the premises of the case which a due regard to economy will not allow him to overlook. Feeding a large number of cattle during the winter, as nearly every one does, he must provide accommodations of a corresponding character, ample in dimensions, and combining with neatness and durability of construction, spacious granaries, threshing-floors, hay-lofts, rooms for tools and implements, etc., besides stalls for six to a dozen head of horses.

The stock of horses in the eastern portion of Pennsylvania, and more particularly in Lancaster County, is worthy of remark. They are enormously powerful animals, bred entirely with a view to draught, and perfectly unfit for the saddle or light harness. Some thirty years ago, when racing was fashionable, the stock of horses embraced some splendid specimens of "blooded animals;" but as this amusement finally ran into gross licentiousness, the race-course was abandoned by respectable persons, and the quality of the stock, as far as swiftness is concerned, immediately deteriorated. The race-course near Lancaster, on the left side of the railway, between that place and Dillerville, was once the scene of some of the finest triumphs of the horse ever witnessed in this country. It was the pride and delight of many gentlemen of fortune, in those days, to enter the "stakes." The spirit of rivalry was carried to great lengths—and the horses themselves seemed

"To share with their masters the pleasure and the pride."

Fox-chasing, too, in the days of our "gran'-dads," was a favorite amusement, and many of those who declined to participate in the

excitements of the race-course, warmly entered into the chase, for which swift hounds, as well as horses, were requisite. Fox-chasing is truly a splendid exercise, because in addition to its adventures and "hair-breadth escapes," it is made the occasion of social reunions amongst neighbors. The description of Thomson is no less applicable to old England than to young America at the time of which we are speaking :

——Give, then, ye Britons,
 Your sportive fury, pitiless, to pour
 Loose on the nightly robber of the fold!
 Him, from his craggy winding haunts unearth'd,
 Let all the thunder of the chase pursue.
 Throw the broad ditch behind you; o'er the hedge
 High-bound, resistless; nor the deep morass
 Refuse, but through the shaking wilderness
 Pick your nice way; into the perilous flood
 Bear fearless, of the raging instinct full;
 And as you ride the torrent, to the banks
 Your triumph sound sonorous, running round,
 From rock to rock, in circling echoes tost;
 Then scale the mountains to their woody tops;
 Rush down the dangerous steep; and o'er the lawn,
 In fancy swallowing up the space between,
 Pour all your speed into the rapid game.
 For happy he, who tops the wheeling chase;
 Has every maze evolv'd, and every guile
 Disclos'd; who knows the merits of the pack;
 Who saw the villain seiz'd, and dying hard,
 Without complaint, though by a hundred mouths
 Relentless torn: O glorious he, beyond
 His daring peers! when the retreating horn
 Calls them to ghostly halls of gray renown,
 With woodland honours graced; the fox's fur,
 Depending decent from the roof; and spread
 Round the drear walls, with antic figures fierce,
 The stag's large front: he then is loudest heard,
 When the night staggers with severer toils,
 With feats Thessalian Centaurs never knew,
 And their repeated wonders shake the dome.

But first the fuel'd chimney blazes wide;
 The tankards foam; and the strong table groans
 Beneath the smoking sirloin, stretch'd immense

From side to side; in which, with desperate knife
They deep incision make, and talk the while
Of ENGLAND's glory, ne'er to be defaced,
While hence they borrow vigor: or amain
Into the pasty plunged, at intervals,
If stomach keen can intervals allow,
Relating all the glories of the chase.
Then sated Hunger bids his brother Thirst
Produce the mighty bowl; the mighty bowl,
Swell'd high with fiery juice, steams liberal round,
A potent gale, delicious, as the breath
Of Maia to the love-sick shepherdess,
On violets diffus'd, while soft she hears
Her panting shepherd stealing to her arms.

The days of fox-chasing, in this quarter, have long since passed, and there are few yet living who shared the wild sport. Poor Reynard has escaped to wilder retreats in the mountains, from whose woody solitudes he can venture with more safety upon the lazy flocks ruminating in the green valleys below. Horse-racing, if not entirely abandoned, has degenerated into mere "scrub contests," in which "fast quarter-nags" run at a rate somewhat less than a mile in forty minutes and fifty-five seconds! Still the villagers of our agricultural districts enter into these little excitements with great satisfaction, and betting sometimes runs into large odds—

I'll bet my money on the bob-tail nag—
Who will bet on the gray!—
Two-to-one on the Camptown brag—
I'll take you, sir, on the bay!

As soon as the harvest is gathered, there is a succession of celebrations, in which the whole rural population take part—young and old of both sexes repair to the village, and interchange friendly greetings, join in the dance, show each other "delicate attentions," make presents, promises, explanations, and so forth. Horse-racing but adds to the general interest of the day, and there is nothing in which the "gay gallants" exhibit more pride than in the spirit and equipage of their steeds. Each farmer's son, when he becomes "of age," has his horse, raised under his own care, on the farm. Young and spirited like the rider, the animal is superfluously rigged with a bright shining yellow

saddle, two flaming red streaked girths, a broad cropper and martingale, two broad reins, with a bridle of corresponding gaudiness, while below, to give a still more imposing aspect to the paraphernalia, is a broad leather halter. The whole is tastefully surmounted with a red or yellow tassel. Thus equipped, the young horse feels and is taught to feel that he has a duty to perform. It is his business to convey the impression that he has stamina—he must bite the bit, jerk up his head betimes, and paw furiously with his feet, and evince, by every possible jesture, the untamed wildness of his nature. He must learn to recognize his master's pride—the dear object of his hopes, his love, and fears—failing in which, he must needs feel the spur's prickly bite, and dance and prance gaily over the road! It is thus that horsemanship often opens the door to a maid's affections—she sees, she admires—then, alas! she loves!

We have stated that the horses in the districts of agriculture are exceedingly large and awkward—fit only for the plough and team. It is only in these districts, however, that such horses are mainly used. In other sections of the State the stock is better blooded, in consequence of being more used under the saddle. Oxen are employed to some extent for labor, particularly in the newly settled and rougher parts of the country—while mules are generally preferred at iron and colliery works, being very hardy and long-lived, as well as capable of drawing heavy loads in the team.

The stock of milch cows has been greatly improved by the importation of many noble animals from England, and so apparent is the advantage which has accrued, that it will probably not be many years before the whole of the present inferior stock will have disappeared from every good farm in the State. The sheep have been also much improved by crossing with the Spanish and English varieties. Wool-growing, however, forms but a very small branch of the agriculture of the eastern counties of Pennsylvania. In the county of Washington, and throughout the northwest and mountain regions of the Alleghanies, it is probably the most important feature of husbandry, and it is there where our flocks have been greatly improved in the quantity and quality of the fleece. The following statistics from the census bureau, exhibit the extent of the productive resources of Pennsylvania, in the year 1850—a year which, by the way, was by no means remarkable for general prosperity:

Number of acres of improved land,	8,619,631
Value of farming implements and machinery, . .	\$14,931,993
Value of live stock,	42,156,711
Quantity of wheat grown, in bushels,	15,482,191
“ Indian corn, “	19,707,702
“ Tobacco, in pounds,	857,619
“ Wool,	4,784,367
“ Wine manufactured, in gallons,	23,839
“ Butter, in pounds,	40,564,741
“ Cheese,	2,395,279
“ Hay, in tons,	1,826,265
“ Hemp, dew rotted, in tons,	173
“ “ water rotted, “	686
“ Flaxseed, in bushels,	43,627
“ Maple sugar, in pounds,	2,218,644

The first settlers of Lancaster County, as also those of Berks, Lebanon, and portions of others adjacent, were Germans, many of them belonging to peculiar religious denominations, as the Mennonists, Seventh-day Baptists, &c. A large portion of the present population of the county still adheres to the religious tenets of their forefathers; and whatever may be thought of them in other respects, their mode of life is simple and without reproach. Virtuous, honest, and industrious, they constitute decidedly the most substantial and respectable class of the people. Certain of them wear long beards, and coats without buttons—the fabric invariably of their own plain manufacture. Seeing these venerable patriarchs disposing of their little business affairs in a simple, straightforward, and unaffected manner, prepossesses one very much in their favor, and challenges the highest respect for their religious sentiments. They endeavor to follow, as nearly as possible, the way pointed out, in their own view, by the Saviour; and the more effectually to do this, shut themselves out from the world, as far as circumstances will allow, and exclude every feeling of personal pride or vanity; kind, charitable and hospitable they practise in their own life the closest self-denial. We know no class of men who come nearer, in their *works and actions*, to the standard of pure Christian principle; they are good to a fault, and virtuous in the broadest sense of the word. They have no salaried preachers, but every man does what he can to illustrate the purity of religion, and to scatter broadcast the blessings of its holy teachings. In their private life, the lines of young Pope are probably as applicable to them as any other people on the globe:

Happy the man whose wish and care
A few paternal acres bound,
Content to breathe his native air,
In his own ground.

Whose herds with milk, whose fields with bread,
Whose flocks supply him with attire,—
Whose trees in summer yield him shade,
In winter, fire.

Blest who can unconcern'dly find
Hours, days, and years glide soft away,
In health of body, peace of mind,
Quiet by day.

Sound sleep by night; study and ease
Together mixed; sweet recreation;
And innocence, which most doth please,
With meditation.

Thus let me live, unseen, unknown,
Thus unmolested let me die;
Steal from the world, and not a stone
Tell where I lie!

The Seventh-day Baptists, who are seceders from the *Dunkers*, established themselves at Ephrata, in 1730. This is a little village lying about seven miles north-east of Lancaster. Their life, at first solitary, was soon changed to a conventual one, and a monastic society was established in 1733. Monastic names and habits were assumed, and the cloister soon numbered upwards of one hundred persons, of both sexes. The number of outside members was about two hundred or more. The society was prosperous and increased, and it soon became necessary to erect larger buildings. These were erected sometime about 1740, and consisted of a sister's house, with a chapel attached, and a brother's house, containing a large meeting-room, with galleries, in which the whole society assembled for public worship. These buildings, which are still standing, and exhibited in the following engraving, were surrounded with numerous others, of small dimensions, and included a school-house, printing-office, paper-mill, &c. The buildings are singular, and of ancient style of architecture, all the outside walls being covered with shingles.



BROTHERS' AND SISTERS' HOUSES AT EPHRATA.

The two houses for the brethren and sisters are very large, being three and four stories high: each has a chapel for their night meetings, and the main buildings are divided into small apartments, (each containing between fifty and sixty,) so that six dormitories, which are barely large enough to contain a cot, (in early days a bench and billet of wood for the head,) a closet, and an hour-glass, surround a common room, in which each subdivision pursued their respective avocations. On entering these silent cells, and traversing the long narrow passages, visitors can scarcely divest themselves of the feeling of walking the tortuous windings of some old castle, and breathing in the hidden recesses of romance. The ceilings have an elevation of but seven feet; the passages leading to the cells, or "kammers," as they are styled, and through the different parts of both convents, are barely wide enough to admit one person, for when meeting a second, one has always to retreat;—the dens of the kammers are but five feet high, and twenty inches wide, and the window, for each has but one, is only eighteen by twenty-four inches; the largest windows, affording light to the meeting rooms, are but thirty-four inches. The walls of all the rooms, including the meeting-room, the chapels, the saals, and even the kammers, or dormitories, are hung and nearly covered with large sheets of elegant penmanship, or ink-paintings, many of which are texts from the Scriptures, done in a very handsome manner, in ornamented Gothic letters, called in the German, *Fraktur-schriften*. They are done on large sheets of paper, manufactured for the purpose at their own mill, some of which are put into frames, and which admonish the resident, as well as the casual visitor, which ever way they may turn the head. There are some very curious ones: two of which still remain in the chapel attached to Saron. One represents the narrow and

crooked way, done on a sheet of about three feet square, which it would be difficult to describe—it is very curious and ingenious: the whole of the *road* is filled up with texts of Scripture, advertising the disciples of their duties, and the obligations their profession imposes upon them. Another represents the three heavens. In the first, Christ, the Shepherd, is represented gathering his flock together; in the second, which occupies one foot in height, and is three feet wide, three hundred figures, in the Capuchin dress, can be counted, with harps in their hands, and the heads of an innumerable host; and in the third is seen the throne, surrounded by two hundred archangels. Many of these *Fractur-schriftens* express their own enthusiastic sentiments on the subject of celibacy, and the virtue of a recluse life, while others are devotional pieces.

The society owned a farm, a grist-mill, paper-mill, oil-mill, and fulling-mill. All the society's property was in common, and the labor of the members; but individual members were not compelled to relinquish private property which they might have held previous to joining the society.

They receive the Bible as the only rule of faith and code of laws for church government. No monastic vows were taken, nor had they any written covenant. They believe in the divinity of Christ and the Trinity of the Godhead, and rely on the merits and atonement of the Saviour, and that he died for all who call upon his name and offer fruits of repentance. They contend for the observance of the original Sabbath. They hold on to the apostolic baptism, and administer *trine immersion* with the laying on of hands and prayer, while the recipient is kneeling in the water. They celebrate the Lord's Supper at night, in imitation of our Saviour, washing at the same time each other's feet, agreeably to his command and example. Celibacy they consider a virtue, but never require it, nor do they take any vows in reference to it. They never prohibited lawful intercourse, but when two concluded to be joined in wedlock, they were aided by the society. Celibacy, however, was always urged as more conducive to a holy life. They do not approve of paying their ministers a salary, thinking the gospel was sent without money or price—but share their own supplies with them.

It is not one of their customs to wear long beards, as is frequently said of them: this is more the case with the Dunkers and Mennonists. They are often represented as living on vegetables,—the rules of the

society forbidding meats, for the purpose of mortifying the natural appetite,—and also as lying on wooden benches, with billets of wood for pillows, as an act of penance. The true reason and explanation of this matter is, that both were done from considerations of economy. Their circumstances were very restricted, and their undertaking great. They studied the strictest simplicity and economy in all their arrangements: wooden flagons, wooden goblets, and turned wooden trays, were used in administering the communion; and the same goblets are still in use, though they have been presented with more costly ones. Even the plates off of which they ate were octangular pieces of thin poplar boards; their forks and candlesticks were of wood, and also every other article that could be made of that material was used by the whole community. After they were relieved from the pressure of their expensive enterprise in providing such extensive accommodations, they enjoyed the cot for repose, and many other of the good things of life; though temperance in eating and drinking was scrupulously regarded.

Although opposed to bearing arms, they opened their houses cheerfully to succor and comfort the distressed inhabitants of Paxton and Tulpehocken during the old French war—for which the government rendered them its acknowledgments, and Gov. Penn offered them a whole manor of land, but they would not receive it. During the revolution they were decided whigs. After the battle of Brandywine

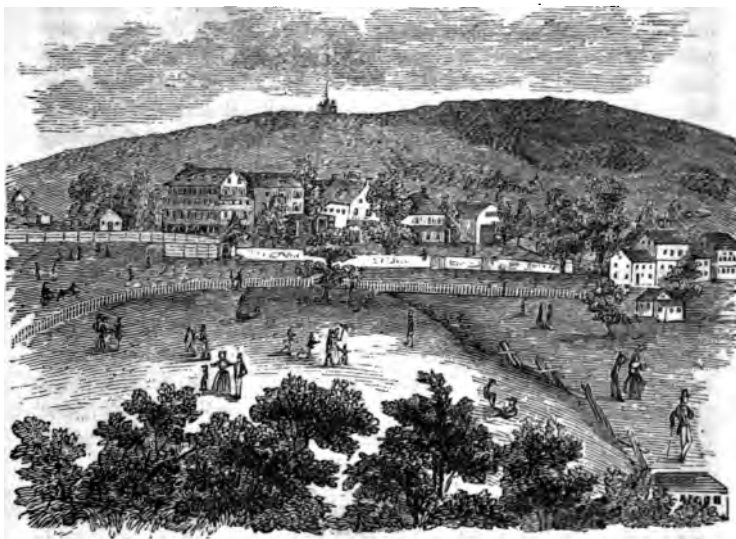


MONUMENT AT EPHRATA.

the whole establishment was open to receive the wounded Americans; their Sabbath-school house was converted into an hospital; great numbers of the sick were transported here in wagons; the camp fever broke out among them, and one hundred and fifty were buried on the top of Mount Zion. Here their remains reposed unnoticed—unhonored and unsung—until a few years ago, when a subscription was set on foot, through the instrumentality of Mr. Konigsmacher, and a monument to their memory commenced on the 4th of July, 1843. The occasion

was celebrated with much spirit. Thousands of people from all parts of the surrounding country were present, and participated in the ceremonies attending the laying of the cornerstone. Hon. Joseph R. Chandler, of Philadelphia, delivered an address,

detailing and commenting upon the historical incidents involved. The monument is still in an unfinished state, but hopes are entertained that sufficient funds will soon be accumulated to accomplish the object intended.

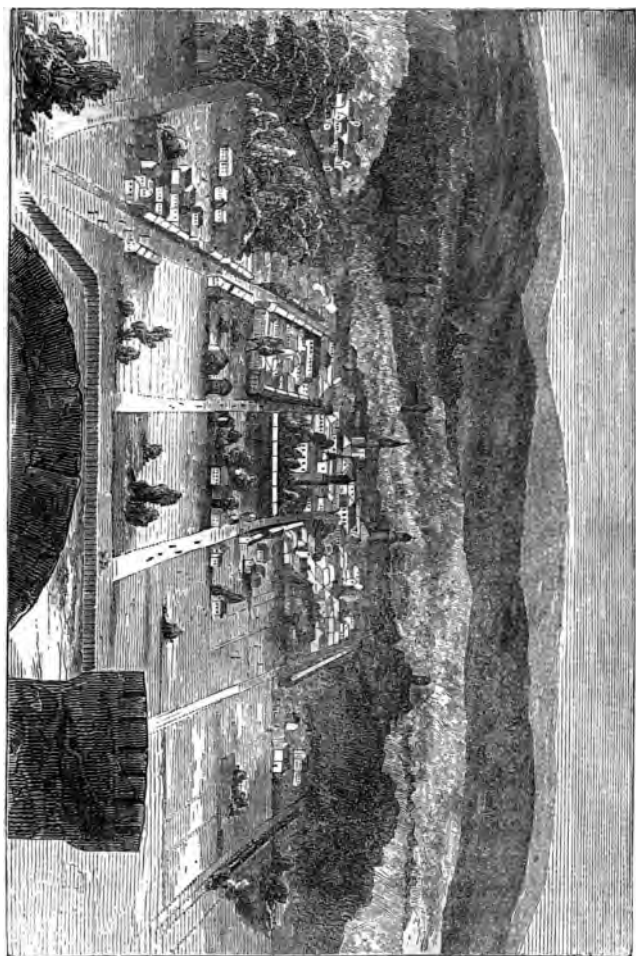


EPHRATA MOUNTAIN SPRINGS.

The Ephrata Mountain Springs, kept by Joseph Konigmacher, Esq., are delightfully situated on the Ephrata Ridge. Here the South Mountain is the dividing ridge, the waters on the south side run into the Chesapeake, and in the north to the Delaware. The water is pure, soft sandstone and slate; the temperature of the different springs is, some very cold, others more moderate, but for drinking or bathing, and its restorative qualities to health for diseased or frail constitutions, it is but seldom excelled. As a delightful summer resort it is extensively patronized; the superb variety of landscape scenery, and the lovely drives affording a pleasant succession of novel and beautiful views.

Passing two or three unimportant stations, (including that of KINZER's, where there is a branch railway to STRASBURG, three miles distant) we reach the city of LANCASTER. This city has recently made much progress in improvement, and its population has been correspondingly increased. It is now nearly fourteen thousand, whereas, only a few years ago, it was but eight thousand. It is an old town, having been laid out in 1730 by Andrew Hamilton, proprietor of the land, and at that time one of the most influential men connected with the government. For the purpose of attracting population, the proprietor sold the lots at low and accommodating rates, subject to a small annual ground-rent. This had the effect of drawing together a large number of inhabitants, principally poor mechanics; and the town was composed almost entirely of small one-storied houses. The citizens, by their industry and frugality, gradually became the owners of the humble tenements they occupied, subject to the ground-rent mentioned. There were no large manufacturing establishments, but a large number of small ones, conducted solely on individual account. There were very few families of fortune, but these were unusually rich, and commanded an influence of corresponding extent. As one-storied houses always *paid better*, in view of the class of people to be accommodated, those who had money to invest in *improvements*, generally expended it in the erection of such buildings.

The original aspect of the town is still retained, to some extent; though there are now in full operation several of the largest cotton and iron establishments in the State. The erection of these magnificent industrial establishments has given an impulse and tone to the business of the place which it never knew before. Like many other county-seats, Lancaster long labored under the paralyzing influences of a superfluous professional population—a population which, whatever its social merit, does nothing but *consume*, without contributing to the real productions or substantial wealth of a community. The place is still literally overrun with professional men—including a horde of smiling, friendly politicians, awaiting their “turn” for the suffrages of the “free and independent electors” of the “old guard.” There is no county in the State—there is probably none in the Union—where more interest is manifested in political affairs; at the same time, it must be observed, there is none which has more offices to bestow! Lancaster has produced some of the most skilful practitioners in the



LANGOASTER.



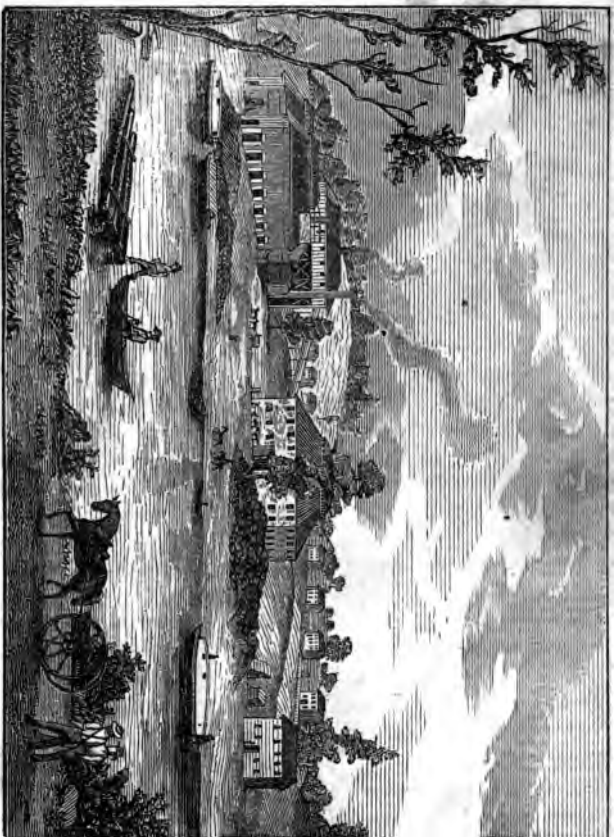
political arena. Indeed, any one who has graduated in its schools, may safely venture forth, relying on his "tactics." The learned professions, too, embrace some of the brightest ornaments in the country, while the population, as a whole, is intelligent and enterprising—though with the elements surrounding them, hardly as enterprising and public spirited as might reasonably be expected. Some of the citizens are very rich, and, as recent experiments have proved, could safely invest their capital in objects conceived in the spirit of taste and liberality. Lancaster, with half the talent and energy wasted in her political struggles, might readily become one of the principal workshops of Pennsylvania. Convenient to the anthracite coal beds, situated in a most magnificent agricultural region, with inexhaustible deposits of valuable minerals—as iron ore, copper, chrome, lead, limestone, &c.—these advantages added to her close proximity to the seaboard, and a superabundance of idle capital, where is the obstacle between her and future greatness and prosperity?

The Conestoga, a beautiful winding stream, passes along the southern outskirts of the city, and empties into the Susquehanna at Safe Harbor, ten miles distant. The Conestoga is rendered navigable for boats of the largest class, by a series of dams and locks. The amount of business done is small; but it affords a splendid water-power for mills, which are plentifully distributed along its banks, as well as the streams emptying into it. Lancaster has a larger number of flouring mills than any other county of equal extent in the Union—the whole number exceeding three hundred, exclusive of clover, saw, and other mills. The Conestoga is connected at Safe Harbor with the Tide Water Canal, situate on the opposite side of the Susquehanna. The boats are towed across the river by a steamboat. It is at this place that the splendid rolling mills and furnaces of Messrs. Reeves, Abbott & Co., are located. These works were erected a few years ago at a probable cost of two hundred thousand dollars. Large beds of iron ore surround them, and the site is in all respects admirable for an establishment of this character. Most of the iron used on the Central Railroad was manufactured at this place, and we venture nothing in saying, that in all the essentials constituting a perfect rail, a more complete one never was laid down in the United States. Having passed over a large portion of the road on foot, we had an opportunity of observing its qualities. At some places, where landslides had occurred, the superstructure of the road was entirely re-

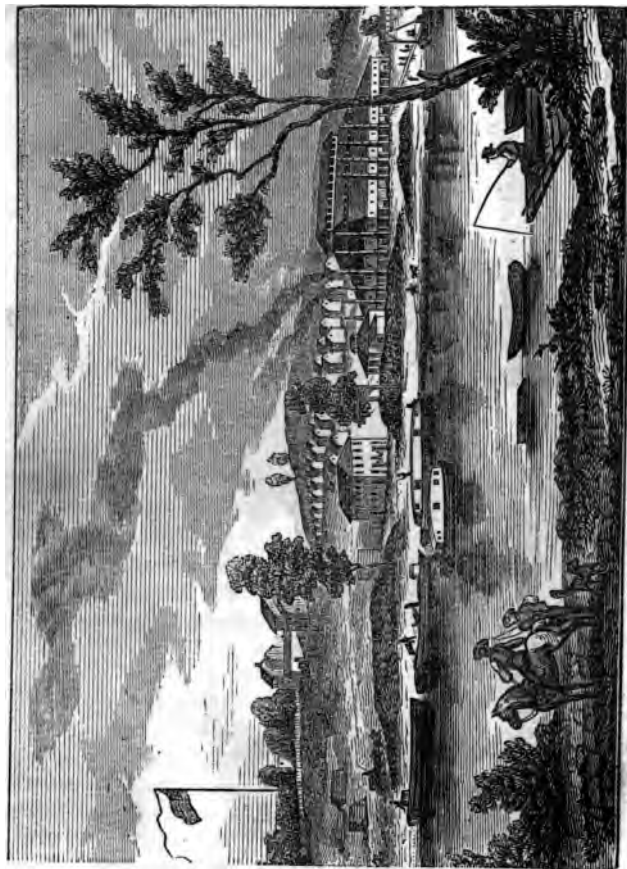
moved out of its place, and the rails bent nearly double; but in no instance had a fracture occurred. Nor is the metal too soft or yielding; for notwithstanding the heavy pressure to which a portion of the road has been exposed, for several years past, we did not meet a single instance of splitting or splintery fracture, so common along the edges of rails on other roads. This is particularly the case on the New York and Erie Railroad, and is one reason why the travel over it is rendered so dangerous. At some places the metal is too brittle, and will not withstand the bouncing momentum occasioned by short curvatures. The rail, therefore, breaks in the most *dangerous places*, and this is an evil which can only be overcome by the substitution of a new and better quality of rail. The Erie Railroad Company, with the laudable desire of remedying this defect on other portions of their road, ordered rails of American manufacture—the other, of course, having been so-called cheap English iron. But in this case they were unfortunate in getting a rail *entirely too soft*, so that it is full of splintery fractures, the edges flattened down, and deep depressions at the place of jointure. This portion of the road, therefore, is just as dangerous as the other, and so palpable has this fact become, that a New York paper, some time ago, speaking of the case of a criminal sentenced to be executed, advised the Governor to commute his sentence to transportation over the Erie Railroad, so as to give the *poor fellow one chance in a hundred for his life!*

In the immediate vicinity of Safe Harbor is a place called Indian-town. It is the site of an old Indian village, formerly occupied by the *Conestagos*, and some of the most interesting conferences between them and the whites were held there. Many relics of the Indians have been picked up by the inhabitants, and several rocks, along the Susquehanna, bear their quaint markings. William Penn paid them a visit on one occasion, and was received with marked respect. As the whites gathered around them, the Indians gradually fell within the pale of civilization, and for many years those that remained pursued the peaceful ways of agriculture. The surrounding country is very rich, being an extensive limestone formation, which, towards the north, gradually sinks under the Turkey Hills. These hills, along the Susquehanna, rise up in immense cliffs, giving to the scenery an aspect of great wildness and sublimity.

Safe Harbor has always been a great fishing place, but has been rendered especially so, of late years, owing to the construction of the

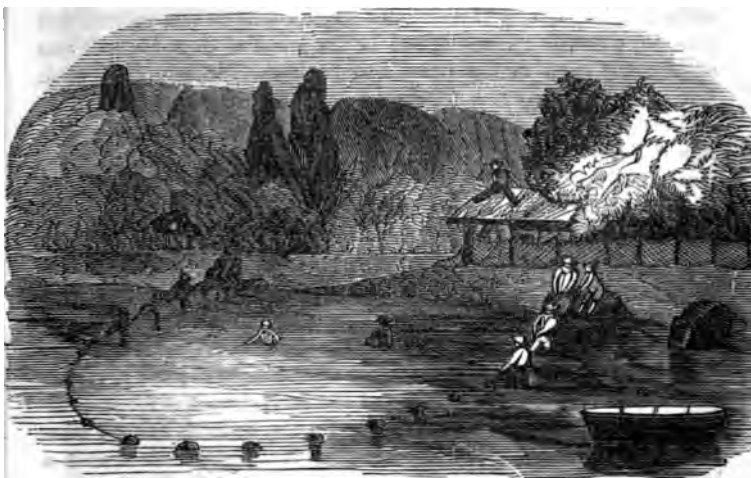


SAYE HARBOR IRON WORKS.



SAFETY HARBOR IRON WORKS.

dam in the Susquehanna, to render it navigable for the steam-tow boats. The dam appears to arrest the progress of the fish, in their upward course, and the fisheries below are rendered correspondingly successful. Immense quantities of shad are caught with the seine, the process of which is indicated in the above engraving. The seine is generally one hundred yards in length, and from four to six feet in width, varying according to the depth of the water. One edge of the seine is heavily loaded with lead, while the other has numerous corks



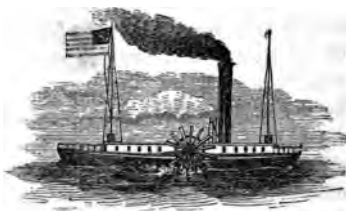
SHAD FISHING IN THE SUSQUEHANNA.

or wooden buoys, so that it floats in the water in an upright position. The seine is carried two or three hundred yards above the fishing battery, when one end is taken in a boat, which is rowed out from the shore in a circular course, and hauled in at the battery, the other end in the meantime, arriving at the same place. The process of hauling in the seine is represented in the engraving. Shad generally run in schools; and in clear weather, with the aid of a spy glass, their approach may be descried from the battery. The hauls are, therefore, irregular; but when a school is effectually surrounded with the seine, an immense number is sure to be captured, as few are able to escape its delicate net-work. Shad fishing is somewhat laborious, and is

followed entirely with a view to profit. It is, however, at times, very exciting, and the fishermen have a merry time of it. Before the erection of the dams in the Susquehanna, shad-fishing was a regular pursuit for many persons all along the Susquehanna, and some fisheries were among the most productive properties in the State, their annual profits yielding, in a course of years, large fortunes.

The Conestoga, while it is the only small stream in the State upon which steamboats run, is also the first upon which experiments for steam navigation were made. William Henry, of Lancaster, as early as 1760, instituted a series of experiments on this subject, and it is said partially succeeded, but in the midst of them his boat was accidentally sunk in the river, and he himself shortly after died. But while his efforts thus failed, it remained for another son of Lancaster to complete what had only been commenced. About this period Robert Fulton was born, in the township bearing his name. His parents shortly after removed to Lancaster, where Fulton received a good education. He subsequently went to London, and having early evinced a partiality for painting, placed himself under the charge of Sir Benjamin West, the celebrated American artist, then and for a long time afterwards, a resident of that city. He here became acquainted with the Duke of Bridgewater, and other distinguished scientific and practical men, and entered warmly into some of their projects, in reference to canals and internal navigations. He soon after obtained patents for an *inclined-plane* for transportation, and certain instruments for excavating canals. Removing afterwards to France, he made himself master of the French, Italian, and German languages, and formed a lasting friendship in Paris with the celebrated Joel Barlow, in whose family he resided. In the meantime he acquired a knowledge of the higher range of mathematics, chemistry, and physical philosophy, the result of which was several important improvements in the mechanic arts and submarine navigation, for two of which he obtained patents. He performed many experiments in the harbor of Brest, with his plunging-boats and torpedos, demonstrating the practicability of employing subaquatic explosion and navigation for the destruction of vessels. This invention, remarks Mr. Day, attracted the attention of the British government, and overtures were made to him by the ministry which induced him to go to London, with the hope that they would avail themselves of his machines; but a demonstration of their efficacy which he gave the ministry, by blowing

up a vessel in their presence, led them to wish to suppress the invention rather than encourage it; and accordingly they declined patronizing him. During this period he also made many efforts to discover a method of successfully using the steam-engine for the propelling of boats, and as early as 1793 made such experiments as inspired him with great confidence in its practicability. Robert R. Livingston, Esq., chancellor of the state of New York, and minister of the United States to the French court, on his arrival in France, induced him to renew his attention to this subject, and embarked with him in making experiments for the purpose of satisfying themselves of the possibility of employing steam in navigation. Mr. Fulton engaged with intense interest in the trial,



THE CLERMONT.

and, in 1803, constructed a boat on the river Seine, at their joint expense, by which he fully evinced the practicability of propelling boats by that agent. He immediately resolved to enrich his country with this invaluable discovery; and on returning to New York in 1806, commenced, in conjunction with Mr. Livingston, the construction of the first Fulton boat, which was launched in the spring of 1807, from the ship-yard of Charles Brown, New York, and completed in August. It was one hundred feet long, twelve feet wide, and seven feet deep. In 1808 it was lengthened to one hundred and fifty feet, and widened to eighteen feet. This boat, which was called the *Clermont*, (from the seat of the Livingston family,) demonstrated on the first experiment, to a host of at first incredulous but at length astonished spectators, the correctness of his expectations, and the value of his invention. Between this period and his death he superintended the erection of fourteen other steam-vessels, and made great improvements in their construction.

"As I had occasion to pass daily to and from the building-yard," said Fulton, "while my boat was in progress, I have often loitered unknown near the idle groups of strangers gathering in little circles, and heard various inquiries as to the object of this new vehicle. The language was uniformly that of scorn, sneer, or ridicule. The loud laugh rose at my expense, the dry jest, the wise calculation of losses

and expenditures, the dull but endless repetition of the "Fulton folly." Never did a single encouraging remark, a bright hope, or a warm wish, cross my path. Silence itself was but politeness veiling its doubts or hiding its reproaches. At length the day arrived when the experiment was to go into operation. *To me it was a most trying and interesting occasion.* I invited many friends to go on board to witness the first successful trip. Many of them did me the favor to attend as a matter of personal respect; but it was manifest they did it with reluctance, fearing to be partners of my mortification and not of my triumph. I was well aware that in my case there were many reasons to doubt of my own success. The machinery, (like Fitch's before me,) was new and ill made; and many parts of it were constructed by mechanics unacquainted with such work, and unexpected difficulties might reasonably be presumed to present themselves from other causes. The moment arrived in which the word was to be given for the vessel to move. My friends were in groups on the deck. There was anxiety mixed with fear among them. They were silent, sad, and weary. I read in their looks nothing but disaster, and almost repented of my efforts. The signal was given, and the boat moved on a short distance and then stopped, and became immovable. To the silence of the preceding moment now succeeded murmurs of discontent, and agitations, and whispers, and shrugs. I could hear distinctly repeated, '*I told you it was so; it is a foolish scheme; I wish we were well out of it.*' I elevated myself upon a platform, and addressed the assembly. I stated that I knew not what was the matter; but if they would be quiet, and indulge me for half an hour, I would either go on or abandon the voyage for that time. This short respite was conceded without objection. I went below and examined the machinery, and discovered that the cause was a slight maladjustment of some of the work. In a short period it was obviated. The boat was again put in motion. She continued to move on. All were still incredulous. None seemed willing to trust the evidence of their own senses. We left the fair city of New York; we passed through the romantic and ever-varying scenery of the Highlands; we descried the clustering houses of Albany; we reached its shores; and then, even then, when all seemed achieved, I was the victim of disappointment. Imagination superseded the influence of fact. It was then doubted if it could be done again; or if done, it was doubted if it could be made of any great value."

Fulton obtained a patent for his inventions in navigation by steam in February, 1809, and another for some improvements, in 1811. In the latter year he was appointed, by the Legislature of New York, one of the commissioners to explore a route for a canal from the great lakes to the Hudson, and engaged with zeal in the promotion of that great work. On the commencement of hostilities between the United States and Great Britain, in 1812, he renewed his attention to submarine warfare, and contrived a method of discharging guns under water, for which he obtained a patent. In 1814 he contrived an armed steamship for the defence of the harbor of New York, and also a submarine vessel, or plunging boat, of such dimensions as to carry one hundred men, the plans of which being approved by government, he was authorized to construct them at the public expense. But before completing either of those works he died suddenly, February 24th, 1815. His person was tall, slender, and well formed; his manners graceful and dignified, and his disposition generous. His attainments and inventions bespeak the high superiority of his talents. He was an accomplished painter, was profoundly versed in mechanics, and possessed an inventive faculty of great fertility, which was always directed by an eminent share of good sense. His style as a writer was perspicuous and energetic. To him is to be ascribed the honor of inventing a method of successfully employing the steam-engine in navigation,—an invention justly considered one of the most important which has been made in modern times, and by which he rendered himself both a perpetual and one of the greatest benefactors of mankind. Some of Fulton's relatives still reside near the spot where he was born; which is further interesting from the fact that the parents of the late Mr. Calhoun, of South Carolina, for a long time lived there; some persons allege that it was the place of his birth.

Lancaster is known, also, as the residence of the Hon. James Buchanan, who removed here from Franklin County upwards of forty years ago. Mr. Buchanan lives in a plain, but substantial brick house about one mile from Lancaster. It was lately the residence of Hon. W. M. Meredith, Secretary of the Treasury during General Taylor's administration. The estate, which is a delightful one, is surrounded by fine shade trees. It is called *Wheatland*, from the splendid agricultural district adjacent. The Hon. Thaddeus Stevens, one of the most brilliant lawyers in Pennsylvania, and at present

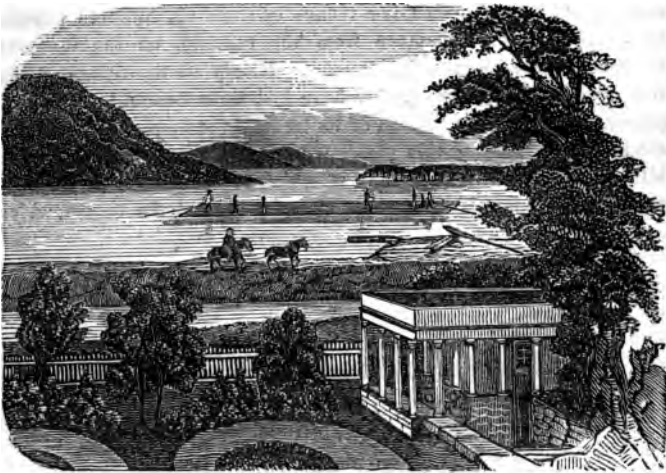
the representative of this county in Congress, has also resided in Lancaster for many years past. He is a native of Caledonia County, Vermont. Personally, Mr. Stevens is one of the best men living;—politically, he is known for his extreme measures, which, were they less sectional in character, would render his position in Congress much more popular and commanding than it is under present circumstances. It is his splendid personal and intellectual qualities which sustain him; in the absence of these, with his strong sectional views, he probably never would have been heard at all in the councils of the nation.

Thomas M'Elrath, Esq., of the firm of Greely & M'Elrath, proprietors of the New York *Tribune*, lives in a handsome retired mansion, one mile north of Lancaster. Hon. Ellis Lewis, the eminent jurist, and one of the Supreme Judges of Pennsylvania, also lives at this place. He is regarded by many as one of the most learned exponents of the law in this country. His occasional contributions to our periodical literature have aided this reputation; these, although thrown off in his idle moments, may be regarded as the *poetic cream* accumulating upon the surface of a fine intellect, and which the more substantial elements of the law refuse to skim off. Judge Lewis has a daughter—the wife of James H. Campbell, Esq., of Pottsville—who also enjoys a conspicuous position in the literary circles of our country. Gliding, as she does, over the clear, transparent water of poesy, Mrs. Campbell has a mind and heart to realize all its varied beauties, and sings them in the purest and sweetest strains.

One mile northwest of Lancaster, the State Railway intersects that of the Lancaster and Harrisburg line, thirty-six miles in length. The former extends to COLUMBIA, ten miles distant. Columbia is one of the most active and flourishing places in the State, delightfully situated on the Susquehanna River. It is in the midst of public improvements, radiating in every direction. The Pennsylvania canal commences here, following the valley of the Susquehanna to Northumberland, where it branches into two divisions, following respectively the north and west branches of that river. Below Northumberland, at Duncan's Island, another division, and by far the most important one, crosses the Susquehanna, and follows the Juniata to Hollidaysburg, situated on the eastern slope of the Alleghany Mountains. The Tide Water Canal meets the Pennsylvania Canal at Columbia, and follows the course of the river to Havre-de-Grace, in Maryland, thirty-six miles. The Baltimore Railroad extends to

York, where it unites with the main road from Harrisburg to Baltimore.

The principal trade of Columbia is in the descending lumber of the Susquehanna, in which a large amount of capital is invested. Some business is done, too, in the coal trade; but it is comparatively unimportant, confined to the more bituminous qualities for domestic purposes. One of the richest deposits of iron ore in the United States is situated within a few miles of the place, which is also surrounded with numerous furnaces and machine-shops, flour and grist mills, &c. The longest and most substantial bridge in the State, and probably in the Union, stretches across the Susquehanna. Its length is over one



VIEW OF THE SUSQUEHANNA ABOVE COLUMBIA.

mile and a quarter, and is adapted both for railway cars and vehicles, as well as for towing boats across the river. A short distance above Columbia, a bold and extensive ridge of white sandstone emerges from the surrounding formation, which, at the Susquehanna, towers several hundred feet in rugged, perpendicular cliffs, entirely overlooking the banks of the river below. This description of scenery, however, is peculiar to the Susquehanna, and is even wilder some ten miles below. About two miles above Columbia is the residence of Prof. Haldeman,

one of the most eminent of American Mineralogists and philosophers. His residence is eminently worthy a gentleman of fortune and cultivated taste—being, probably, the most stately edifice in this part of the country, while its situation is altogether unsurpassed for bold, romantic profile, and delightful prospect. The view on page 61 is afforded from his spring-house, a short distance from the dwelling. The village of MARIETTA, one mile distant, is situated on the banks of the river.

Eleven miles from Lancaster is the village of MOUNT JOY, pleasantly situated in the heart of a beautiful agricultural region. Cedar Hill Seminary, near this place, is a well-known school for young ladies. The place is otherwise without general interest. ELIZABETHTOWN, eight miles further, is a village of some six hundred population. It is a short distance from the railroad, on the turnpike between Philadelphia and Pittsburg. Nearly all the villages along this once crowded thoroughfare have lost their former interest and prosperity, since the diversion of its trade to the lines of railroad and canal. After leaving this place, we enter the range of Conewago hills, some six miles wide, one of which is tunnelled. A splendid bridge crosses the stream a short distance beyond the tunnel, which



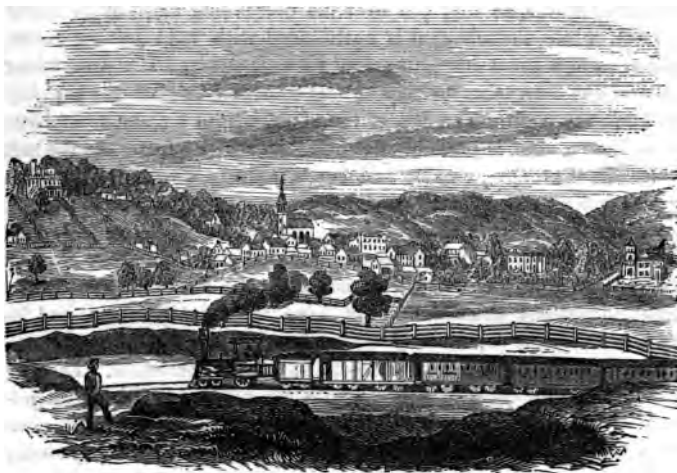
RAILROAD BRIDGE OVER THE CONEWAGO.

is nearly one hundred feet in height. This structure has just been completed, and is one of the most substantial of the kind in the State. The entire railroad, indeed, has recently been very much improved,

and re-laid with a strong rail. The country between Elizabethtown and Middletown, nine miles, is strewn with huge blocks of trap rock, which constitute the characteristic feature of the Conewago range. Some of these blocks indicate, in their rounded structure, a deposition by drift, though it is more probable that they have been detached from their beds by the slow but powerful erosive agency of floods and rains, which, carrying off the *smaller detritus* associated with them, has left them thus isolated and exposed. These rocks are amongst the hardest which the varied state of the earth afford, and it is both curious and interesting to see them thus scattered over the surface of a recent formation, when they themselves belong to the earliest epochs of the earth's eventful history. The Susquehanna, no doubt, long battled with this range of hills before it was able to secure its final passage. Even now its waters are tossed into tremendous bounding waves, as they roll over the descending steps of its rocky bottom, while the channel is surrounded with bold jutting rocks, which form a great impediment to its navigation. The descending rafts of the Susquehanna pass through these falls with the rapidity of a railway train. The fall of the river, within a distance of little more than a mile, is probably not less than seventy feet. As the raft descends, it plunges, creaks, and bends in every direction—the high waves rolling and splashing frightfully—rendering the adventure at once exciting, novel, and perilous. We made the descent, several years ago, and can never forget the peculiar agitation of our nervous system, as our “long, low” craft made the first plunge into the troubled waters! Gracefully sank down the front platform, and furiously swept the eager water over our thirsty boards! That plunge over, another and another followed in quick succession. Looking round, we were quite bewildered with the real wildness and magnitude of the scene—the white-capped waves sweeping by with tremendous force, and dashing their empty furies against the sturdy rocks, which the men at the oars, with the most *desperate efforts*, were trying to avoid. They succeeded, and glancing back, as we were rapidly emerging from the scene of danger, a thrill of inexpressible delight burst up from our half-smothered “inner man.” We shall never forget our passage through the Conewago Falls; it was a *pleasant trip*!

MIDDLETOWN, situated on the old turnpike, equi-distant from Lancaster and Carlisle, originally derived its name from that circumstance. It was “laid out” in 1775, having previously been the site of an In-

dian village. The Swatara here empties into the Susquehanna, and the Union Canal, elsewhere alluded to as the first improvement of the kind ever projected in the United States, unites with that of the Pennsylvania Canal. The section between this place and Pine Grove, the place of shipment of the coal passing over the work, has lately been enlarged so as to carry tonnage equal to the boats of the Pennsylvania Canals. The other section, from that place to Reading, where the canal unites with the Schuylkill navigation, is capable of floating boats of some thirty tons only. This section will also, no doubt, be enlarged, so as to make the tonnage uniform throughout the line. Middletown, as may be inferred from the number of rafts and piles of lumber strewn along the mouth of the Swatara, has an extensive trade in this business, as well as in coal. The place is a large



VIEW OF MIDDLETOWN.

and flourishing one—the citizens generally intelligent and enterprising. It is the residence of Gen. Simon Cameron, a distinguished statesman and financier, who has always commanded a large amount of influence in the political movements of the day. Gen. C. has served his native State with zeal and ability in the Senate of the United States, and has always, indeed, evinced a patriotic devotion to its interests.

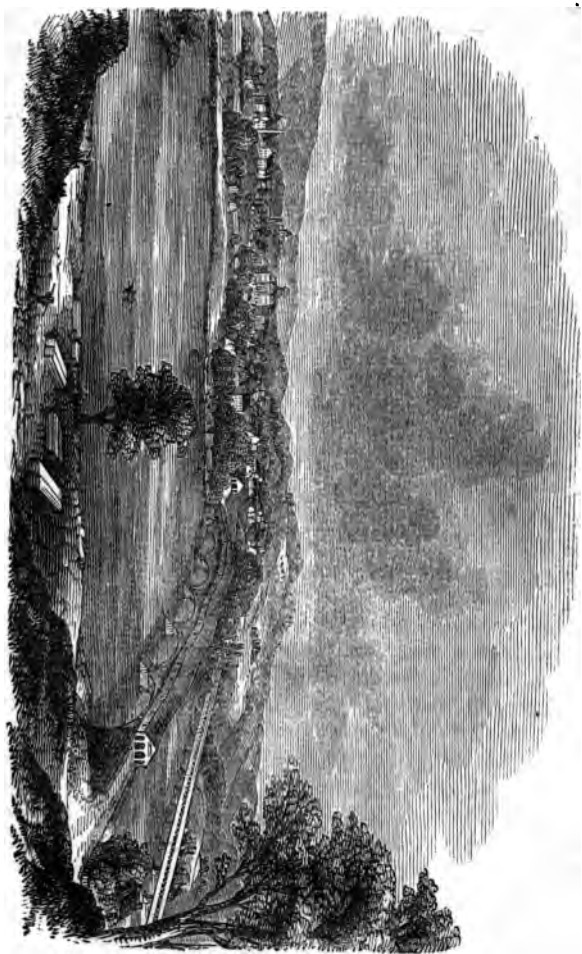
Middletown covers a large area, and that part of it which is properly so called, is exhibited in the engraving. The village at the mouth of the Swatara is locally called Portsmouth being a mere offshoot of the larger and older town.

The first view we obtain of the Susquehanna is near Middletown, where it flows smoothly and tranquilly along its pebbled banks. It is all along strewn with pleasant islands, most of them overgrown with trees and vines, while some of the larger ones are cultivated and inhabited by the farmer. Indeed, there are some five or six of the most productive farms in Pennsylvania situated in this river, two or three of which have upwards of two hundred acres each. Most of the smaller islands are well adapted to the culture of tobacco, which is raised to a large extent. Had the same amount of money appropriated to the construction of the canals traversing the valley of this river been directly applied to the improvement of its navigation, there can be little doubt but that its trade would have been greatly increased. The Susquehanna drains over thirteen millions of acres of land, much of which is coal and valuable mineral land of different varieties. When this immense region is fully occupied and worked, our present canal and railway system will prove entirely inadequate to carry off its products, and we should not be surprised if not many years hence its improvement for steamboat navigation was seriously undertaken. And why not? There is really no serious impediment—the fall, upon the whole, is not too great to be overcome without dams or locks. Three or four millions of dollars, judiciously expended, would render it navigable, beyond doubt, for steamboats of the largest class. The river transports an immense, an incalculable amount of debris, all of which might be arrested in its progress, and deposited in such a manner as to form long narrow islands, thereby preventing its waters from spreading over too wide a surface, and rendering the channel much deeper, which, at its lowest stages, is seldom less than five feet. The falls, of which there are but five or six difficult ones, might readily be overcome without dams or locks. Their irregular rocky steeps could be blasted, or the force of the descent impaired by carrying the channel in a round-about direction.

The Susquehanna, between the Conewago hills and the Kittatinny Mountain, is crossed by the celebrated Cumberland Valley, sometimes called the Kittatinny Valley. This broad and fertile valley enters the State in Northampton County, on the Delaware River, and pursuing

a nearly western course, crosses the Susquehanna, where, diverging in a more southerly course, it afterwards enters the State of Maryland—its entire length, in this State, being about sixty miles. The counties of Northampton, Lehigh, Berks, Dauphin, Cumberland and Franklin, are embraced within its range. It has numerous extensive layers of limestone, which, of course, is the principal source of its great fertility, while the soil is still much improved by the descending vegetable matter of the surrounding mountains. The valley, throughout its entire length, is well watered, and inhabited by an industrious thriving population. This valley, along the Susquehanna, has at some points a broad alluvial margin, which, however, is no less prolific for agricultural purposes. This may be observed by the traveller as he passes along in the cars—the numerous banks of sand and pebbles, embracing every variety of river stone, indicating the former flow or projecting arms of the river over them.

HARRISBURG, the capital of the State, is one hundred and seven miles north-west of Philadelphia, and two hundred and fifty-six miles east of Pittsburg. It lies three hundred and ten feet above tide-water. This is one of the handsomest towns in the United States, and it is deficient in nothing calculated to render it so. It lies on a broad alluvial flat, some twenty feet above the flow of the river, which gracefully winds around its western shores. The river is here again split with several beautiful islands, overgrown with a profusion of stately trees and rich wild foliage, which are reflected upon its clear unruffled surface. Two splendid bridges hang over it—one to accommodate the passage of horses and vehicles, the other for the Cumberland Valley Railroad, running to Chambersburg, in Franklin County. Both these bridges are over a mile in length, and are unsurpassed for their strength and architectural proportions. Some eight miles north the bold outlines of the Kittatinny Mountain are seen, traversing this portion of the State in an east and west direction—leaving abrupt, wild, and lofty coves along the Susquehanna. Back of the Kittatinny, further north, a succession of other mountains occurs—being the projecting spurs of the great anthracite coal formation, which, on approaching the Susquehanna, divides into two branches, one called the Lykens Valley, the other the Dauphin coal districts. The scenery around this place has, therefore, all the softness of a splendid agricultural valley, teeming with spirited little villages and imposing farm-buildings, agreeably contrasted with the soft green aspect of bold and



HARRISBURG.



lofty mountain ranges, through which the river tamely and serenely winds its peaceful way. It was wisely selected for the seat of government of this great commonwealth. The borough contains many beautiful public and private buildings—the latter, especially, far superior to those of most other towns in this State. The population is now upwards of eight thousand, having materially increased during the last few years. It contains several large iron, cotton and other manufacturing, which furnish employment for a large number of operatives, of both sexes. The people are very intelligent, and the tone of the society is probably unsurpassed. The Legislature, at its annual session, attracts many of the better class of our citizens to the place, whose sojourn during the social excitements of the winter doubtless contributes much to the polish of the people. The Legislature, itself, we regret to say, is often composed of indifferent material. In selecting representatives, the question with the people too often is, "*who will accept?*" not "*who shall we send?*" Practical and sensible people—men of education, talents, and experience, all avoid it. The compensation is less than they are accustomed to receive—and the honor is not sufficiently great to tempt them from their regular pursuits. It is thus a difficult matter to get really good men into our Legislative sessions. There is no inducement for it; while there is seldom any question or principle of sufficient magnitude to call them forth on grounds of personal patriotism. Some years ago, at the outset of our splendid internal improvement system, and while the banking and educational policy of the commonwealth was still unsettled and incomplete, it was far otherwise. At that period some of the brightest intellects of the State illumined its Legislative Councils; men eminent for their private worth, their public spirit, and their comprehensive talents, constituted the representatives of the people. It was then regarded as an honor to mingle in its deliberations, because they were characterized with dignity, masterly eloquence, and practical wisdom.

Soon after the policy of the State in reference to internal improvements, banks, education, &c., had been marked out, a striking change occurred. The extraordinary interest awakened in these subjects, engulfed the State into a sea of political agitation, which has never had a parallel in its history. The appropriation of millions upon millions of dollars, for the prosecution of the State works, called forth thousands of political adventurers, who, like a pack of ravenous wolves, pounced upon the tempting feast, their mercenary appetites

leaving nothing but the skeleton of their hospitable victim. Like leeches, their blood-thirsty appetites became sharper with the increasing weakness of the prey; and they gnawed, like a poisonous mineral, at its interior vitality, until the fretful clouds of bankruptcy hung over the feeble old Commonwealth, and ghastly *Repudiation* was about to lay its black seal upon her fallen credit! This was a gloomy—gloomy time! Nor have we yet altogether recovered from its paralysing effects. The secret of this unfortunate state of affairs—or, rather the *reason*, for it never was a secret—was simply this: The original intention of the friends of an internal improvement system contemplated but one main thoroughfare throughout the State, with one or two radiating branches. Setting out vigorously with the prosecution of this laudable enterprise, the work was shortly overwhelmed with difficulties entirely foreign to its own merits. While yet unfinished, a large number of branches were proposed, to construct which millions of dollars were unblushingly asked for. The friends of these local branches took common ground—they would vote for no more appropriations for the *main line*, without their proposed branches were provided for. The main line, which was already recognized as a matter of downright necessity, and cheap at any cost, was thus saddled with a host of unproductive branches, the construction of which only impaired and complicated its own value to the State. The State, thus embarrassed, had to borrow an immense amount of money, while the objects upon which it was expended failed to yield revenue enough to pay even the annual interest. In the meantime, many portions of the work were incomplete, and in this way, year after year, millions were squandered without the return of a dollar in the shape of profit! The men employed on the improvements controlled the elections; few were elected to office except hungry political gamblers, and, of course, they had everything their own way. The people, attributing most of the evil to the mismanagement of the works, and the political influences operating upon the Executive, in the appointment of their managers and superintendents, *stripped him of these functions, and vested their whole charge in a board of commissioners, elected by their suffrages. This, however, effected little good, for the Canal Board, even now, is probably as corrupt as the most voracious political gourmand could desire. Elected entirely upon political considerations, the commissioners act under its influences, and render the works subordinate to its purposes. In-

stead of our State works being, as they ought to be, a system of trade and commerce, regulated solely with that view, they are a vast system of political corruption, poisoning the atmosphere wherever they penetrate. The only effectual way for the people to rid themselves of the whole tribe of partizan speculators, is to sell the works to the highest bidder, or bestow them on whatever parties will accept.

The whole length of completed canal, owned by the State, is about seven hundred and fifty miles, and of railroad one hundred and twenty miles. The following gives the route and cost of the several divisions: 1. The Delaware Division extends from Bristol to Easton, at the mouth of the Lehigh, connecting with the canal of that company—ascend, one hundred and sixty-four feet; length, sixty miles; cost, \$1,374,744. 2. The Eastern Division commences at Columbia, (the termination of the State Railroad from Philadelphia, elsewhere noticed,) and extends along the eastern bank of the Susquehanna to Duncan's Island, where, crossing the river, it connects with the Juniata Division. From this place it follows the western bank of the Susquehanna to Northumberland, where the river separates into two branches, and the canal into two divisions. The ascent from Columbia is one hundred and eighty-two feet; distance, eighty-two miles; cost, \$2,602,832. 3. The North Branch Division extends from this place to the Lackawanna, in Luzerne County. Ascent, one hundred and twelve feet; distance, seventy-three miles; cost, \$1,491,894. This division is to be extended from this point to Bradford County, near the State line, so as to connect with the Chenango Canal in New York; and thus afford an outlet for the coal of the Lackawanna region. Over \$3,000,000 have already been expended on this extension, which is now nearly completed, throughout its length, ninety miles, the ascent of which is nearly two hundred feet. 4. The West Branch Division extends from Northumberland to Panamsville, in Clinton County, an extensive region of bituminous coal. Ascent, one hundred and thirty-eight feet; distance, seventy-five miles; cost, \$1,708,579. There are two small radiating branches in this division, one extending to Lewisburg, in Union County, a fertile agricultural district, not quite a mile in length; the other to Lock Haven, in Clinton County, nearly four miles in length. 5. The Juniata Division, a portion of the main line, and the most important division in the State, commences at Duncan's Island and extends to Hollidaysburg, in Blair County, situate at the foot of the Alleghany Mountains. Ascent of lockage, five hundred and seventy-six feet; distance, one hundred and thirty miles; cost, \$3,437,334. 6. The Eastern and Western Divisions being here separated by the mountains, a railroad was constructed to connect them with each other. This is called the Portage Road. It is thirty-six miles in length, and cost \$1,783,176. It ascends and descends the mountain with ten inclined planes, five on each side, which are now about to be avoided by a new route of railway already completed. The longest plane is three thousand one hundred and seventeen feet, overcoming an ascent of three

hundred and eight feet, and the shortest is one thousand four hundred and eighty feet in length, with a rise of one hundred and thirty feet. The total elevation of the Alleghany summit, on this road, is about twenty-two hundred feet above tide-water. 7. This road, extending from Hollidaysburg to Johnstown, in Cambria County, meets the Western Division of the Pennsylvania Canal, at that place. The canal follows the valley of the Conewago and the Kiskiminitas to the Alleghany River, which it crosses, and then follows its western bank to Pittsburgh, where it again crosses, and meets the Monongahela. Descent, four hundred and seventy-one feet; distance, one hundred and five miles; cost, \$2,964,882. 8. The Beaver Division extends up that river from the Ohio to the Shenango, and thence six miles beyond New Castle. Ascent, one hundred and thirty-two feet; length, thirty-one miles; cost, \$756,000. This division, near New Castle, meets the Mahoning Canal, extending into the State of Ohio, which intersects the Ohio and Erie Canal of that State. 9. This division is a portion of a long line, originally intended to connect the Ohio River with Lake Erie, by way of Conneaut Lake. The Erie Extension is an unfinished line, divided into two branches, the Conneaut and the Shenango, which extends from the latter northward to Erie. The ascent from New Castle to Conneaut Lake is two hundred and eighty-five feet, from which point there is a descent to Lake Erie of five hundred and ten feet. The whole length of this extension is one hundred and five miles, and over \$3,500,000 have been expended. 10. A navigable canal, called the French Creek Feeder, extends from Meadville, in Crawford County, to the Erie Extension at Conneaut Lake, twenty-seven miles. There is a branch from Meadville to the Alleghany River, at Franklin, twenty-two miles in length, with a descent of one hundred and twenty-eight feet. The cost of both works was nearly \$1,000,000. After spending the above amount of money on these extensions, the State was finally induced to transfer them, to insure their completion, to incorporated companies, reserving to itself the right of controlling, to some extent, their policy and management. To the foregoing might be added some other lines, proposed or commenced, as the Gettysburg Railway, running from that place to the Baltimore and Ohio Railroad, in Frederick County, Md. This road, after over \$700,000 had been expended upon it, was finally abandoned as perfectly useless. Lying in an extensive copper region, it may some day be found worth while to complete it, inasmuch as the Hanover Branch Railroad, connecting with the Pennsylvania Railroad at Columbia, extends within a few miles of Gettysburg. Such was the improvement system of Pennsylvania, for which a debt of over \$40,000,000 has been incurred, and which has probably consumed, in losses by freshets and otherwise, in interest of capital invested, and in various other ways, of more than one hundred millions of dollars! Indeed, the *prime cost* of all the improvements constructed by the State, including subscriptions to turnpikes and bridges, would hardly fall short of this astounding sum.



STATE CAPITOL AT HARRISBURG.

Little more remains to be said of Harrisburg. The capitol stands on a handsome sloping elevation, rising in the north-east end of the town. It is sufficiently elevated to afford a fine view of the surrounding country, whose peculiar beauties we have already mentioned. The capitol grounds are enclosed with an iron-rail fence, and laid out in handsome gravel walks, shaded with numerous trees, which are still young and in vigorous growth. The main building is one hundred and eighty feet in length by eighty feet in width, and two stories in height. It is a plain but substantial brick building, sufficiently characteristic of our old commonwealth. A large circular portico, faced with six heavy stone columns, constitutes the front entrance to the building. In the interior is a large rotunda, with the high dome overarched, from which is entered the Senate Chamber on the left, and the Hall of the Representatives on the right. Both these halls are large and neatly furnished—but there is nothing extravagant about them. The chair occupied by the Speaker of the House is the identical one used by John Hancock whilst President of the Continental Congress, and during the consummation of the Declaration of Independence. It is a plain, but withal a very elegant chair. The wood, if we remember correctly, is black walnut. It is still



JOHN HANCOCK'S CHAIR.

in a tolerably good state of preservation, but time and constant use are beginning to attack its points. Such is its substantial build, however, that it will probably yet outlive a dozen other chairs of more modern manufacture. On the second story of this building are apartments for the State Library, the Canal Commissioners, and the Supreme Court—as well as for Committees of both houses of the Legislature. The State Library, we should judge, is in a bad condition, its *written* catalogues, at least, are in a wretched state, showing neither ability of classification, orthography, or decent penmanship. Some of the large table-books—especially those of prints—are mutilated and soiled, which could entirely be avoided if suitable revolving platforms were constructed for their accommodation. One of these books, containing the series of valuable prints of Boydell's Shakspeare Gallery, cost eight hundred dollars, and if better care is not taken of it, it will not be in a condition to be seen in a few years more. This is especially important, because the original edition of this great work is very rare. Many books, too, are missing—no doubt *thousands*. What has become of them?

On both sides of the capitol two other buildings will be noticed, much smaller, but somewhat similar in their architectural features. That on the right is occupied by the Land Office of the State, and the Board of Property. The other, on the left, is occupied by the Treasury Office on the first floor, and by the Secretary of State's Office on the second floor. The Governor also has an apartment here for the transaction of his official business. Both these buildings are entirely too small, as well as miserably arranged and constructed. The truth is, the whole establishment reflects little credit upon the State, and we should not regret to see it displaced by a larger and more imposing edifice. A mansion is now about to be erected for the accommodation of the Governor, an appropriation for that purpose having been made during the last session of the Legislature. This is a step which should long since have been taken; and to make amends for the delay, the building should be one of substantial elegance, corresponding with the high functions of the Executive office of the State. Governor Bigler is not remarkable for his talents, but he is an honest man, and thus far has discharged his high duties with ability and general satisfaction to the people. We like the broad national ground he maintains in his political career, while we admire the energy and persevering industry with which he arose from a comparatively humble position

in life to one of commanding influence and honor. Not many years ago he was editor of an obscure country paper, having previously regularly served the usual time as an apprentice to the printing business. Without the assistance of fortune or influential family connections, he has fought his way, and triumphed in every progressive step. That he fills his present position with the best motives for the general good, we have no doubt; but that he is liable to pursue the wrong, or misapprehend the true course in which the general and permanent good of the people may best be promoted, is probably the only fear which a political opponent may reasonably entertain. His Secretary of State is a man of some ability, which is supported by great energy of character. His past political history, mainly connected with the political movements of the day in Schuylkill county, where he has long resided, is by no means above reproach—because it too often exhibits a mere unscrupulous partizan. He was one of the daring spirits who, in 1844, undertook to prove Mr. Polk as good a tariff man as Mr. Clay, and for all practical purposes he was probably the most successful man of the tribe. He, however, appeared to have been disappointed in Mr. Polk's course, in this respect, and subsequently exerted himself to repair the damage which had been done; but in the meantime the people, among whom his statements had obtained currency, suffered severely the paralyzing effects of their credulity, and bitterly realized the deception under which they had previously labored. The Secretary of the Commonwealth, in addition to his other duties, is also Superintendent of Common Schools. The system of education, as now carried out in Pennsylvania, is one of the noblest features in the general character of the State—and yet, strangers passing through it seldom credit its citizens with the intelligence which they really possess. They see a large number of Germans, in some parts of the State, and at once set them down as unlettered. This is a great mistake. The fault is entirely in their vocal language, which is awkward, impure, and *inexpressive*. An educated youth, raised in a community where the leading characteristics of this peculiar Pennsylvania dialect prevail, will be sure to fall under its influence. Being a kind of familiar, every day dialect, every body adopts it. It is the most free-and-easy way of conducting business and social intercourse. The educated man is thus somewhat crippled in the most essential part—*fluency*. Feeling his utter incapacity to express himself effectively, he assumes none of the exterior trappings of learn-

ing, but is satisfied with the moderate and occasional use of it, which his business and momentous exigencies may require. A stranger, therefore, may stumble over a plain, industrious farmer, and be surprised to find a man of profound learning. The truth is, our growing population is very generally educated to a certain extent—that is, the essential points comprising a good English education are taught to all, with very few exceptions. But the isolated position of a large portion of our citizens exposes them to the influences of the mixed German-and-English dialect so peculiar to our agricultural districts, and thus the learning they acquire never receives the *colloquial finish* which intercourse with people speaking the English language alone would probably give it. Besides, our German population adhere, as far as practicable, to books and newspapers printed in their own language; but most of them can read understandingly English and German alike.

The present School law was adopted in 1836. It is an improvement on those previously existing, all of which flowed from an express provision of the constitution, requiring a system of general education under the auspices of the State Government. By its provisions, every man is required to pay a tax corresponding with his wealth, no matter whether he may have children to educate or not. All have to contribute for the support of government, and to provide for the common defence; so that all may be secure in the blessings of our institutions and the possession of the rights of person and property. To promote the general welfare—to prevent crime, immorality, and pauperism—education is necessary, and therefore it is properly reduced to a system, under the control and patronage of the government. Thus, the State is divided into some fourteen hundred districts, the citizens of which may determine by ballot, at stipulated periods, whether schools shall be supported in their midst or not. If they decide in their favor, the State contributes a certain amount in their aid—equal to about half their actual expenses. The other portion is collected from the citizens, according to their estates, to assess which directors are appointed, who also superintend the pecuniary and general affairs of the school, appoint teachers, &c. If the citizens decide adversely to schools, of course no benefit from the School-fund of the State can accrue to them. Of the fourteen hundred districts now comprising the School system, probably at least twelve hundred have accepted the law. The non-accepting districts, for the most part, are those where

the people are all generally in "good circumstances," and prefer educating their children under their individual direction. Sometimes a district is under the control of rich old bachelors, or penurious, childless husbands—among whom, of course, such a law as this stands no chance of favor! During the sixteen years that the Common School system has been in operation, the people of this State have expended nearly *sixteen millions of dollars* in its support—exclusive of the large sums annually paid to sustain the numerous *private* academies, colleges, and seminaries, which are also giving their valuable aid to the cause of general education. The number of schools in the State, including Philadelphia, which comprises a separate division of our school system, is nearly twelve thousand. In 1836 there were but eight hundred and eight! The pupils now number half a million, and the annual cost is nearly *one and a half millions of dollars*! It is worthy of remark, that the ablest and most eloquent advocate this law ever had, either in or out of the Legislature, was Thaddeus Stevens, a bachelor!

There are several other matters which ought properly to be treated of in connection with Harrisburg; but it is time to pursue our journey, and thank fortune we have before us for the remaining two hundred and fifty-six miles, one of the smoothest and most substantial roads in the United States. So, then, all aboard!

About two miles from Harrisburg, on the right, is situated an imposing structure, not yet fully completed, which is exhibited in the accompanying figure. This is the Pennsylvania Lunatic Hospital, erected by the State, for which fifty thousand dollars were appropriated. It is placed in the charge of a board of trustees, who act without compensation. The insane from all parts of the State can be received here, at the expense of the counties to which they respectively belong; or, if able to pay themselves, at an ordinary cost of about \$2.50 per week, including board and medical attendance. It is thus contemplated to make the institution pay its own expenses, without becoming a further charge to the State. It has accommodations for two hundred and fifty patients, and a farm of one hundred and thirty acres of land is attached. The institution was thrown open for the reception of patients in October, 1851, and there are now probably over one hundred enjoying its treatment.

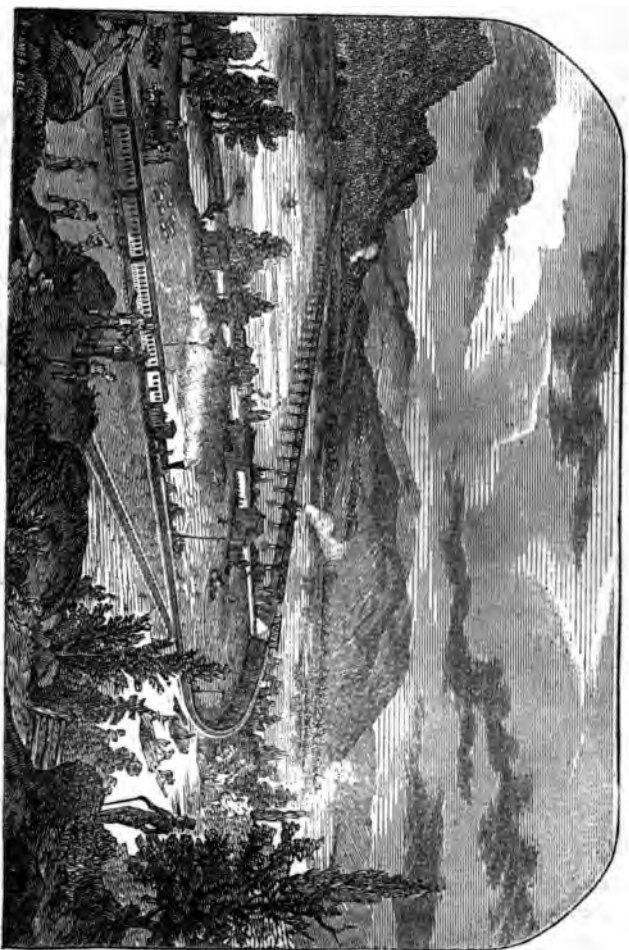
The hospital building consists of a centre building, and wings extending in a linear direction on each side; each wing is so arranged



PENNSYLVANIA LUNATIC HOSPITAL.

that the second projection recedes twenty feet behind the first, and the third the same distance behind the second, so that the second and third projections of the wings on each side of the centre building are open at both ends, which renders them light and cheerful, and insures at all times a free natural ventilation. The centre building is of three stories above the basement or ground floor, has a large Tuscan portico, with a flight of twenty steps to the main entrance, and is surmounted by a large dome, from which a very extensive view of the surrounding country is obtained. The hospital is lighted throughout with gas brought from the works of the Harrisburg Gas Company. In the improvement of the grounds, and the cultivation of the garden, it is expected that much assistance will be derived from the patients themselves—out-door exercise of this character being part of the system of treatment resorted to whenever the patients can be persuaded thus to employ themselves, and generally attended with gratifying results. The institution is open to visitors under certain judicious restrictions.

A few miles above the hospital we cross the Susquehanna on one of the finest structures in the country, and amidst a scene of unrivalled picturesqueness and beauty. The Susquehanna has here forced its way through a range of abrupt mountains, which constitute the western termination of the great anthracite coal region of Schuylkill County. We have already devoted a separate chapter to the consideration of this wonderful region, touching upon all its leading features, and including a description of the processes of mining, &c. We can



RAILROAD BRIDGE OVER THE SUSQUEHANNA.



only, in this connection, refer the reader to the article alluded to, which comprises Part II. of "Off-hand Sketches." The coal veins, as they approach the Susquehanna, are flattened out, while the coal itself is soft and of a semi-bituminous character. The region, from its proximity to the Susquehanna, is favorably situated; but the position of the coal strata is such that mining operations can never be prosecuted with much success, or to any great extent. An immense amount of money has already been spent in gigantic improvements to develop a comparatively small and imperfect coal district. The other fork, called the Lykens Valley, is better developed in coal, and the strata lie in a position more favorable for mining purposes. A *soft coal never can be profitably mined*, because much of it is lost in the process of excavation, and much more in the subsequent handling and transportation. Having said thus much, we pass on "over the bridge and far away."

The railroad, after crossing the bridge, runs some ten miles along the narrow bank of the river. Forcing its way between it and the projecting mountain-spurs, it occasionally exhibits some "tall" specimens of side-cutting. This is particularly the case at the Cove, ten miles from Harrisburg. Here the wagon-road is forced into a tight place—unable to pass below, it ascends about eighty feet above the railroad, and winds around the frowning precipice in abject obedience to the "inevitable force of circumstances."

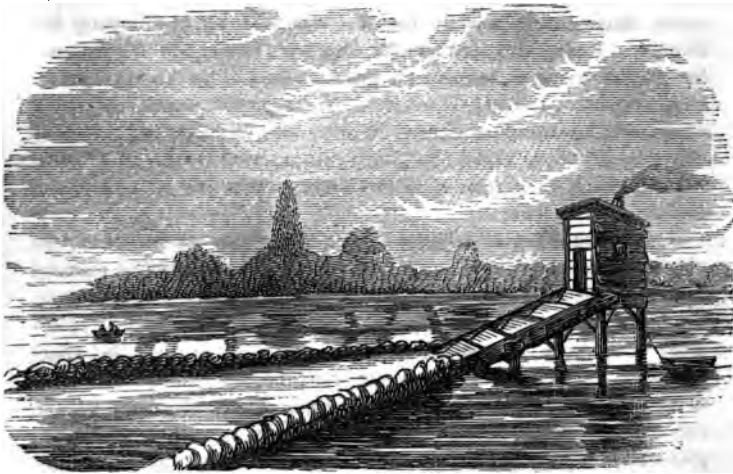
The railroad, too, where it runs directly alongside the Susquehanna, is elevated from fifteen to twenty-five feet above it, and is protected from the ice and water freshets to which the river is subject, by strong stone embankments, sloping to the water's edge. Like all other mountain-streams, the Susquehanna is particularly known for its propensity to get "high." At such times it foams and rages terribly, though few would suspect it from its usual gentleness and docility. In the spring, when the snow melts, the swollen stream breaks up the lazy ice, which, charged with sand and pebble, and fragments of trees and timber, descends in huge masses. At



THE COVE.

some points below, the river becomes very narrow and correspondingly deep, being hemmed in by high walls of rock on both sides. The ice here frequently dams up, throwing back the water with its floating fields of ice, while these, rubbing against each other in fierce conflict, create other dams; and thus the river, for many miles, is often completely and emphatically *dam'd*! The water and ice, thus savagely arrayed against each other, adjourn their "muss" to the adjacent villages along the shores, where, seizing piles of lumber, boats, trees, small houses and stables, they bear them along, and finally dash them to pieces over some old villain of a rock. Sometimes they vent their furies upon the unoffending railroad, canals, and bridges; and it was thus that the noble structures at Clark's Ferry, above, and at Harrisburg, Columbia, and McCalls' Ferry, below, were at different times carried away or materially injured. The railroad here, however, is pretty safe; and so, too, is the bridge. The river is unquestionably becoming tamer every year, and by the time the Maine Law is put in force in this State, the Susquehanna will probably cease to "get high" altogether!

In the fall of the year the traveller will notice all along the Susquehanna, as well as the Juniata, the Lehigh, and other streams, a contrivance for catching fish, called a fish-basket, which is exhibited in the annexed figure. The thing, as will be seen, is very simple; but it plays "hob" among the cat-fish and eels, and perch, and other natives of these rivers. A stone wall is built in the stream (which, in the fall, outside of the channel, is usually not more than three feet deep) in the manner indicated in the engraving. At the neck of these walls, a wooden structure is placed, one end sunk under the water, and the other gradually rising some six feet above it, supported by strong wooden props. Upon this are placed five or six lath platforms, about four feet square, one projecting over the other. The lath are nearly an inch in width, and fixed half an inch apart, so as to allow the descending water to pass through. The fish, as they come idling down the stream, in friendly social glee with each other, suddenly fall over the platform of lath, and, no doubt much to their surprise, find themselves unable to swim back. They, however, appear to have a merry time of it, kicking and frisking around amongst each other, while new customers are constantly rolling in. Occasionally an old sucker is "sucked in," and makes a tremendous floundering among the assemblage, huddled together like democrats at a county meeting.



A FISH-BASKET IN THE SUSQUEHANNA.

But the day breaks forth through the foggy vapor, and the drowsy fisherman, emerging from his bed of straw in the cabin, begins leisurely to haul them up. They are all consigned to a large slimy bag; and thus ends the whole process, which, unhappily, forever seals the fate of the fish.

A few miles above the Cove Mountain is the village of DUNCANNON, well known in connection with its iron manufactures. Some twelve miles from this place are situated the Perry Warm Springs, with which there is a mail-stage connection. We know nothing of the merits of the spring, but we do know the proprietor, and cannot too warmly commend him to the notice of our rambling friends.

The iron works have lately been much enlarged, and include extensive rolling-mills, nail factories, and machine-shops, with a large furnace establishment a mile or two distant. There are upwards of two hundred persons employed in these establishments. The village stretches along the Susquehanna until it meets that of PETERSBURG, from which it is separated by the Little Juniata. Both these villages are pleasantly situated, both in respect to trade and surrounding scenery. A few miles above, Duncan's Island bridge stretches over

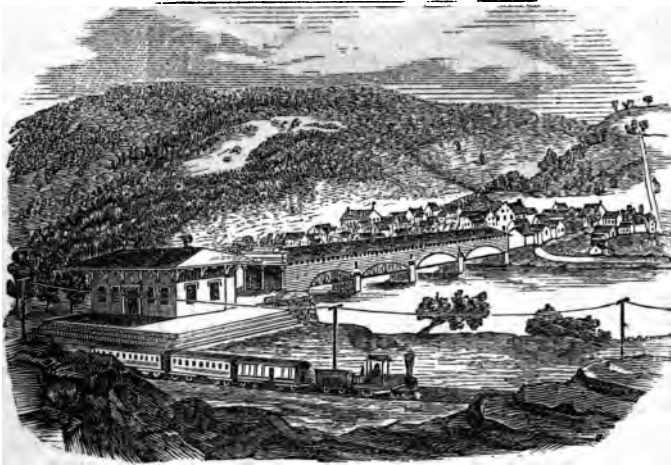
the broad river, and the canal, as already noted, forms two divisions—one continuing along the Susquehanna, the other following the Juniata. Fourteen miles beyond Duncan's Island, on the Susquehanna, is LIVERPOOL, remarkable for the wild and picturesque beauty of its scenery, a tolerable specimen of whose general aspect is afforded at this and intermediate points. While nature has all along this river evidently done her utmost to give "enchantment to the view," man has mingled with it some of the noblest works of his enterprise and genius.

Having travelled some thirty miles along the Susquehanna, we obtain our last view of it near Duncan's Island, where the railroad gracefully leaves it, and follows the bright, the blue, the wild Juniata. Flowing, in one broad sheet, to the Conewago hills; it opened splendidly to our view, and only doubled its attractions as we rolled along the green banks and the soaring spurs of the Kittatinny; but here, nestled amongst a troop of mountain peaks and rocky cliffs, with a belt of green fields stretching to the Tuscarora, it fades serenely, but gloriously, in our departing gaze. The county we are now in, we should have mentioned before, is Perry, which lies between the Kittatinny and the Tuscarora Mountains. Entering this county from Franklin, adjoining it on the south-west, where the Tuscarora is known as Cove Mountain, while the Kittatinny is cut up into detached knobs, they keep close together for some distance, but finally separate and get far apart—the distance between them, at the Susquehanna, being at least twenty miles. Between these mountain ranges the prevailing scenery is that of a rich and thrifty farming district—agreeably diversified with an occasional sprightly village, a view of the tortuous river and canal, and the usual "thousand and one" concomitants of a wild, sloping, and beautiful valley. The land is well supplied with beds of limestone and iron ore, as well as numerous streams of water, calculated to furnish driving power for nearly every description of useful manufacture. It was long the abode of Indians, who perpetrated upon the early white settlers some of the bloodiest tragedies to be met in their eventful history. Duncan's Island, in the Susquehanna, was their favorite retreat—their summer resort; and in passing to and fro the valley resounded their frightful yells, and drank up the blood of their savage tomahawks. The early settlers consisted of Irish and Scotch Presbyterians, with a few English Quakers; the population now, however, is principally composed of Ger-

mans, who are invariably found wherever there is a good soil, and their patient industry and frugal habits always enable them to supplant every other class of people.

At Newport, which is twenty-seven miles from Harrisburg, the Juniata makes a sharp curvature, apparently for the express purpose of meeting a little stream, called Buffalo Creek, which it gallantly carries off in its course. This ridiculous curve of the Juniata's put the railroad company to a considerable expense in constructing two elegant and substantial bridges over it, both of which would have been unnecessary had the stream kept in its straightforward course. We hate foolishness!

A short distance above Newport, which is a small village, two or three hundred yards from the railroad, the canal is transferred to the opposite side of the river. The water is deepened by a dam, and the boats towed over by a rope, in an ingenious manner. The rope,



MILLERSTOWN, ON THE JUNIATA.

winding around a wheel on each side of the river, is made to travel to and fro by water-power supplied by the canal. The boats are attached to this rope, and are thus towed over.

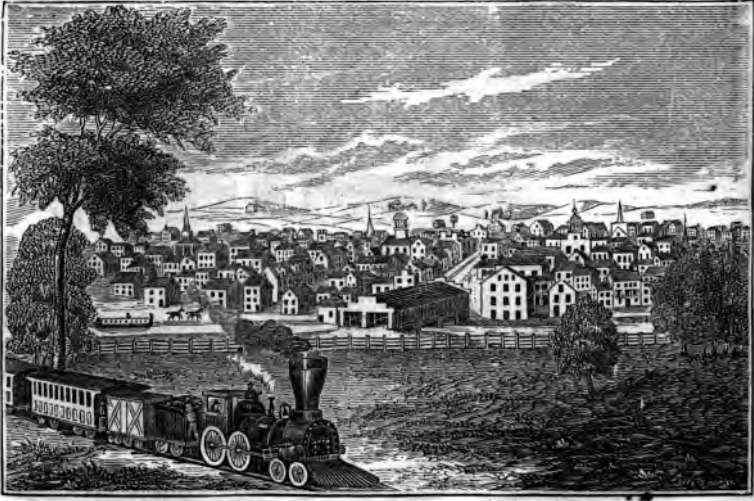
MILLERSTOWN, one hundred and forty miles from Philadelphia,

two hundred and twenty-three from Pittsburg, and thirty-two from Harrisburg, though a small village, is still the largest one in Perry County, containing a population of about five hundred. It is beautifully situated, and contains several well-built, spacious, and neat dwellings—but it looks best when seen at a “respectful” distance. The inhabitants are mostly German, and live as Germans do—quietly, decently, soberly—never flame out with sign-boards and gim-cracks over their stores and shops—never bustle about with quills stuck above their ears—never drive “fast” horses, or give wrong change—never have meals cooked in a hurry—never serve ham and eggs without placing around them, in a little circle, dishes of apple-butter, molasses, fruit, preserves, &c. ; in brief, they live coldly, and accumulate wealth prudently, and “further this deponent saith not.”



TUSCARORA STATION.

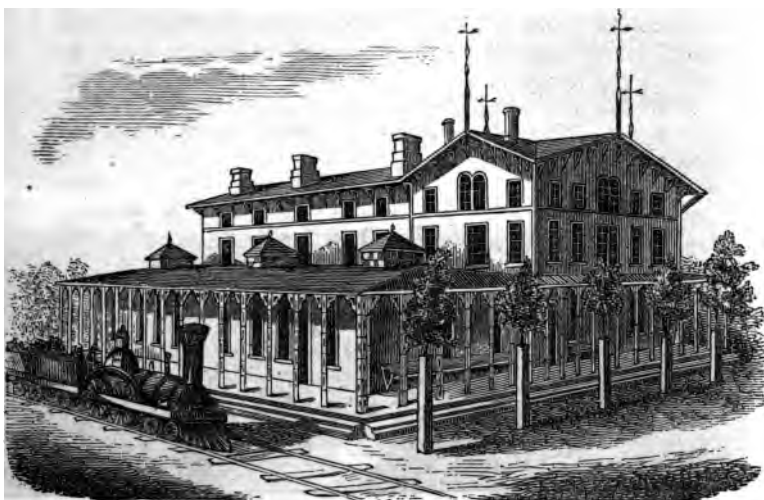
The railroad, a short distance above, enters the Tuscarora Mountain, and runs along its northern slope for many miles. The country, or certain portions of it, is not so well developed in fertility as it is below—but a glimpse is now and then obtained of a good farm, sloping to the river from the mountain sides. The gorge of the mountain passed, we enter the county of Juniata, which lies wholly between the Tuscarora and Shade Mountains, running in nearly parallel order, and only a few miles apart. The county is thus about five times as long as it is broad—but situated as it is, the land is, upon the whole, rather productive. Like Perry, it has its seams of iron ore and limestone, and its furnaces have long enjoyed good reputation for the quality of the metal they produce. Tuscarora Creek runs along the mountain of that name, and empties into the Juniata near MIFFLIN,



MIFFLIN.

which is the seat of justice, as well as the most populous town in the county. It is delightfully situated, like most other towns along the Juniata, on a sloping eminence, from which a view of the surrounding scenery is afforded. The canal passes under the bridge represented in the engraving, and has, of course, materially increased the trade of the town. Several little villages on the Juniata, between this place and Millerstown, are merely depots for the storage and shipment of the produce of the surrounding country, as Thompsonstown, Mexico, Perryville, &c.

Opposite Mifflin the railroad company has erected several large buildings, including the hotel here exhibited, which is, in our opinion, one of the finest establishments of the kind in the United States, at the same time that it is extremely plain in its internal structure, and cost, comparatively, a trifling amount of money. Several brick hotels along this road, of about the same dimensions, but constructed by private capital, cost at least twice as much as this house, while they are palpably inferior to it in architectural beauty, convenience of arrangement, and general completeness of design and appearance. The truth is, nothing



THE PATTERSON HOUSE, ON THE PENNSYLVANIA RAILROAD.

has been more neglected in this part of the country, and generally speaking, throughout the entire State, than the subject of architecture. It is not known or recognized as an art at all; and the natural result is, the houses and buildings of every description are dull, stupid, and monotonous—destitute alike of real convenience, of harmonious proportion, and of true economic principle. They are totally unrelieved by a single meritorious feature, beyond the immediate one of protection from the elements. Ventillation—good taste—in short, everything is sacrificed to produce buildings as ridiculous and clumsy in appearance as they are uncomfortable for practical use. Good barns, it is true, are often seen; but even these are all constructed after the same antiquated plan—not one of them deviating so far as to exhibit a neat projecting border to relieve the blankness of the roof or gable-ends; nor is there any other ornament calculated to produce a sprightly effect to a building otherwise highly creditable.

The railroad company, in the construction of all its numerous buildings, has given a practical exposition of the laws of good taste and architecture, as founded on economical principles. There is not

one of its buildings, even the little watering-stations, that does not rise far superior, in the spirit of the design, to any other on the route. And the force of our remarks will be appreciated when the above hotel is compared with other establishments characteristic of the country. It was erected with direct reference to the taste, comfort, and entertainment of the traveller—points which are too often overlooked by railway companies, when constructing their lines of improvement. They too often suppose that nothing more is expected of them beyond the mere transportation of the “flesh and blood,” with the accompanying bag and baggage. No matter what inconveniences the weary traveller may be exposed to, it is no affair of theirs—it is not “found in the bond.” This, however, is not the spirit that actuates the Pennsylvania Railroad Company. The Patterson House—named in compliment of a former President—is one that will tempt the traveller from the fatigues of his journey, and, being tempted, will obtain a hold upon the affections of the “in’ard man.” The table is sumptuous—the dining-room cool and spacious—the servants black as charcoal, and polite as a Pennsylvania sun can make ’em. The proprietor, whoever he is, is evidently a learned man in his useful profession, and seems to act upon the lines of old Goldsmith—

Whoe’er has travelled life’s dull round—
Where’er his journeyings may have been—
Must sigh to think he still hath found,
The warmest welcome at an inn!

This hotel is 156 miles from Philadelphia and 207 from Pittsburg. It is elevated 430 feet above tide-water, while the altitude of the surrounding mountains will average about 700 feet.



ENGINE-HOUSE AND WORKSHOPS.

In the rear of the Patterson House are situated the workshops and engine-house of the railroad, for the eastern section. The buildings

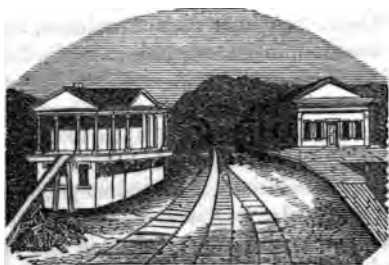
are of brick, put up in the most substantial manner, with due regard to ornament. Whatever repairs of the running machinery of the road may be necessary, from time to time, will be attended to here.

Leaving this place, the railroad runs in a perfectly straight course to the north-western boundary of the county, where it enters that of Mifflin amidst the wildest and most beautiful scenery which the eye of man could desire. Passing through a narrow gorge, we have what is locally termed the Black-log Mountain on the left, and Shade Mountain on the right. Along the summits of both these mountains are huge rocky promontories, black and dismal, and broken into irregular peaks, with sharp intervening fissures and valleys of denudation. From these overhanging rocks immense avalanches have, from time to time, been detached, and precipitated in frightful confusion along the mountain sides, which are also very steep. These stones have no soil associated with them, but lying one on top of the other, they present a loose mass, apparently on the verge of sliding still further down. The whole stony assemblage is thus held in *statu quo* by some faithful tree or deeply-set rock. The amount of these detached rocks is altogether inconceivable—the mountains are literally covered with them, from top to bottom. Covered with moss, and of a dark and sombrous color, they give to the scene a stamp of positive wildness, the beauty of which is increased by the overhanging foliage, sloping to the rugged banks of the Juniata, which leaps over its rocky bed as if bewildered with the scene around. There are many other scenes in our mountain ranges similar to this; but there is none, in this broad continent, which surpasses it in picturesque outline. It is one of those things, too, that must be seen leisurely to be fully comprehended and enjoyed. The means by which these immense bodies of stone became detached, are perfectly plain—but are still none the less worthy our contemplation. Some may suppose that the mountains are occasionally seized with the ague, which sometimes prevails along the Juniata in the fall of the year; and shaking and trembling violently under its sickening spells, the rocks may thus have been detached and tumbled down from their lofty beds! But we are pretty sure the ague had nothing to do with it, and simply because those who are acclimated to the Juniata are not liable to take it; and of course mountains have resided in “these parts” long enough to be perfectly exempt from such ailments. No; the element which has been at work here, and sundry other places where similar effects are

exhibited, is a simple but powerful one. It has evidently been busy throughout a vast space of time; nor has it abandoned its occupation. It is water. The Juniata, with the eccentric boldness which has always characterized it, commenced a violent onslaught to get through the mountains. Swelling indignantly at the obstacle before it, it finally broke through, in a wild resistless torrent, tearing the mountain savagely as it passed along. This splendid triumph achieved, it proceeded leisurely to clear out its course—one by one the rocks were split and hurled from their ancient positions, and gradually the incision in the mountain increased, until it reached its present level. In the meantime the waters of the river returned, time after time. Picked up by the wandering clouds, they rode back in swift-travelling gales, and again and again pounced upon the devoted mountains. First removing their coats of clay and sand, they seize a pebble here and another there, and roll them against some projecting rock. What can't be done in the regular way, must be accomplished by stratagem—therefore water enters into the state of snow and ice, and catching the loose particles laying on the surface, holds them in its freezing grasp, and carries them along when it resumes its annual spring campaign. By this means a gradual decomposition of rocks is produced, and sometimes the thawed earth lets loose immense avalanches. Thus, the substance of the mountains is daily diminishing, and water is the active agent that has charge of the whole business of transportation. Water, therefore, has been the leading and only agent in affecting the degradation of our mountain system; and to what extent its operations are still continued, may be estimated at every valley which receives the descending debris. Opposite Spruce Creek an example is afforded of the degrading effects of a single torrent. A deep incision is made in the side of the mountain—the surface scooped out all the way down, in some places to the depth of twenty feet or more. It will grow larger and deeper with every rain that falls, until, finally, the rocks of the mountain protrude, and detach themselves in the same frightful manner as in the Long Narrows, above described.

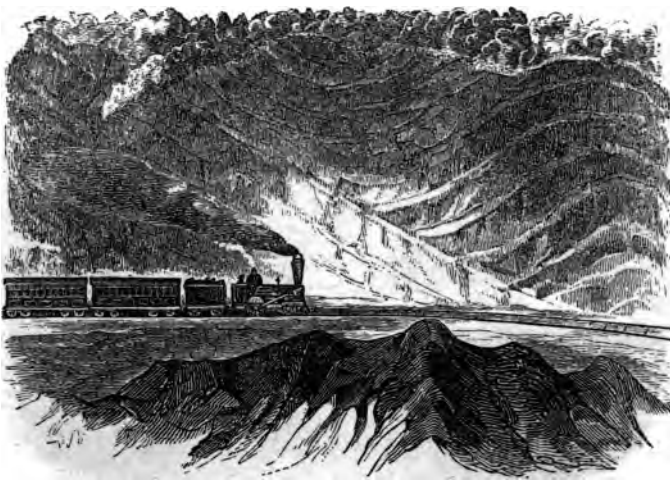
Mifflin County, of which LEWISTOWN is the judicial seat, lies between two prominent mountain ranges, which run in a south-west and north-east direction. The southern boundary we have just passed in the long Narrows separating Black-log and Shade Mountains; the northern line runs between Jack's and Stone Mountains,

adjoining Huntingdon and Centre, and meeting Union in the east. At this place the Juniata makes a sharp curvature to the south-west, passing through the greater portion of the county, when, making another sudden curve near Newton Hamilton, twenty-three miles distant, it cuts through Jack's Mountain, and again strikes to the north. Had the little thing only broke through the mountain, in a straight line between Petersburg and Lewistown, it would have saved more than



LEWISTOWN STATION.

half the distance it now travels. The Kishacoquillas, a large and beautiful stream, rising in the mountains north-east of Lewistown, joins the Juniata as it winds along the eastern slope of that borough. It furnishes a splendid water-power, which is extensively applied at various points on the route—at Lewistown constituting the driving power of two large and handsome flouring mills, the only branch of manufacture, we believe, which the town affords. This is surprising. Viewed from the railroad, LEWISTOWN has the appearance of a large and busy place; but it is not. The town is composed, for the most part, of inferior buildings, while the population (embracing about twenty-eight hundred) appear to be idle and without enterprise. The situation of the town is, in every respect, advantageous and pleasant. The entire county is one broad fertile valley, with rolling ridges dividing it into numerous subordinate ones, many of which contain a plentiful supply of iron ore and limestone, while the Juniata and its numerous tributaries supply any quantity of water-power at the same time that they thoroughly drain the land. It has all the natural beauty and many of the prominent outline features which have given such poetic and undying celebrity to Wyoming; but its citizens lack the spirit and stamina so characteristic of the people of that region



DEEP CUT NEAR LEWISTOWN.

throughout its extraordinary and romantic history. If the same kind of Connecticut Yankees had originally settled along the Juniata, or if they were induced to do so now, it would soon wear a different aspect. Their industry and practical enterprise would soon blaze forth in spirited rays, and the whole valley would resound with the clatter of machinery—the thunders of the hammer—the blaze of the furnace—the rattle of the loom.

Lewistown might become a more important place, even as a *summer resort*. Considered in this respect, it combines every requisite advantage, and all that is wanted is one or two spacious hotels, showy and well-conducted. There are two or three respectable inns in the centre of the town, but these are too much exposed to gossiping loafers to merit any considerable patronage from summer tourists. The hotels for the accommodation of travellers should be located nearer the railroad. A citizen of Lewistown, in a letter published some years ago, in one of the borough papers, says: “The scenery is the finest in the world; we breathe the pure mountain air. Our clear streams abound with fish, particularly trout. Our forests are filled with game of every description; and Milliken’s Spring, on a farm adjoining the town, is



LEWISTOWN.

ascertained to possess all the medicinal qualities of the Bedford water, particularly in bilious complaints."

The celebrated Indian Chief, Logan, lived in this part of the valley when the whites first arrived. His cabin was near the wild gorge in Jack's mountain, and the history of the county of which this was formerly a part, is full of anecdotes relating to him. Logan was probably the most eloquent Indian orator of which we have any account. He was the Clay of the Indian people; and in natural dignity, independence of spirit, and loftiness of purpose, few whites have surpassed him.

Near the village of REEDVILLE, about six miles from Lewistown, is a beautiful spring, near which the orator often dwelt. The following anecdote, related by the late Judge Brown, one of the earliest settlers, is connected with this spot:

"The first time I ever saw that spring," said the old gentleman, "my brother, James Reed, and myself, had wandered out of the valley in search of land, and finding it very good, we were looking about for springs. About a mile from this we started a bear, and separated to get a shot at him. I was travelling along, looking about on the rising



LOGAN, THE INDIAN CHIEF.

ground for the bear, when I came suddenly upon the spring; and being dry, and more rejoiced to find so fine a spring than to have killed a dozen bears, I set my rifle against a bush, and rushed down the bank and laid down to drink. Upon putting my head down, I saw reflected in the water, on the opposite side, the shadow of a tall Indian. I sprang to my rifle, when the Indian gave a yell, whether for peace or war I was not just then sufficiently master of my faculties to determine; but upon my seizing my rifle and facing him, he knocked up the pan of his gun, threw out the priming, and extended his open palm toward me in token of friendship. After putting down our guns, we again met at the spring, and shook hands. This was Logan, the best specimen of humanity I ever met with, either *white* or *red*. He could speak a little English, and told me there was another *white* hunter a little way down the stream, and offered to guide me to his

camp. There I first met your father. We remained together in the valley a week, looking for springs and selecting lands, and laid the foundation of a friendship which never has had the slightest interruption.

"We visited Logan at his camp, at Logan's Spring, and your father and he shot at a mark for a dollar a shot. Logan lost four or five rounds, and acknowledged himself beaten. When we were about to leave him, he went into his hut, and brought out as many deer-skins as he had lost dollars, and handed them to Mr. Maclay, who refused to take them, alleging that we had been his guests, and did not come to rob him—that the shooting had been only a trial of skill, and the bet merely nominal. Logan drew himself up with great dignity, and said, 'Me bet to make you shoot your best—me gentleman, and me take your dollar if me beat.' So he was obliged to take the skins or affront our friend, whose nice sense of honor would not permit him to receive even a horn of powder in return."

Logan was one of the most successful hunters ever known among the Indians, and supported his family entirely by killing deer, dressing the skins and selling them to the whites. He once sold a large lot to a tailor, of the name of De Young, living somewhere in Ferguson's Valley—tailors, in those days, dealt extensively in buckskin breeches. Logan received his pay, according to agreement, in wheat. The wheat, however, on being taken to the mill, was found so worthless that the miller refused to grind it. Logan was much chagrined, and attempted in vain to obtain redress from the tailor. He then took the matter before his friend Brown, who was a magistrate; and on the judge's questioning him as to the character of the wheat, and what was in it, Logan sought in vain to find words to express the precise nature of the article with which the wheat was adulterated, but said that it resembled in appearance the wheat itself. "It must have been *cheat*," said the judge. "Yoh!" said Logan, "that very good name for him." A decision was awarded in Logan's favor, and a writ given to Logan to hand to the constable, which he was told would bring him the money for his skins. But the untutored Indian—too uncivilized to be dishonest—could not comprehend by what magic this little paper would force the tailor against his will to pay for the skins. The judge took down his own commission, with the arms of the king upon it, and explained to him the first principles and operations of civil law. "Law good," said Logan; "make rogues pay."

But how much more simple and efficient was the law which the Great Spirit had impressed upon his heart—to *do as he would be done by!*

Lo the poor Indian, whose untutored mind
Sees God in clouds, or hears him in the wind!
His soul proud science ne'er taught to stray
Far as the solar walk or milky way—
Yet simple nature to his hope hath given
Beyond the cloud-capped hills an humble heaven—
And thinks, admitted to that equal sky,
His faithful dog will bear him company!

Mr. Jefferson, in his Notes on Virginia, gives the following incident in the history of Logan, after leaving the Juniata:

In the spring of 1774, a robbery and murder were committed on an inhabitant of the frontiers of Virginia, by two Indians of the Shawnee tribe. The neighboring whites, according to their custom, undertook to punish this outrage in a summary manner. Colonel Cresap, a man infamous for the many murders he had committed on those much injured people, collected a party and proceeded down the Kanaway in quest of vengeance; unfortunately, a canoe with women and children, and one man only, was seen coming from the opposite shore unarmed, and unsuspecting an attack from the whites. Cresap and his party concealed themselves on the bank of the river, and the moment the canoe reached the shore, singled out their objects, and at one fire killed every person in it. This happened to be the family of Logan, who had long been distinguished as a friend to the whites. This unworthy return provoked his vengeance; he accordingly signalized himself in the war which ensued. In the autumn of the same year a decisive battle was fought at the mouth of the great Kanaway, in which the collected forces of the Shawnees, Mingoes, and Delawares were defeated by a detachment of the Virginia militia. The Indians sued for peace. Logan, however, disdained to be seen among the suppliants; but lest the sincerity of a treaty should be disturbed, from which so distinguished a chief abstracted himself, he sent, by a messenger, the following speech to be delivered to Lord Dunmore:

"I appeal to any white man if ever he entered Logan's cabin hungry, and he gave him not to eat; if ever he came cold, and he clothed him not. During the course of the last long and bloody war Logan remained idle in his cabin, an advocate for peace. Such was my love for the whites, that my countrymen pointed as they passed, and said, Logan is the friend of the white man. I have even thought to have lived with you, but for the injuries of one man. Colonel Cresap, the last spring, in cold blood, murdered all the relations of Logan, even my women and children.

"There runs not a drop of my blood in the veins of any living creature; this called on me for revenge. I have fought for it. I have killed many. I have

fully glutted my vengeance. For my country I rejoice at the beams of peace: but do not harbor a thought that mine is the joy of fear. Logan never felt fear. He will not turn on his heel to save his life. Who is there to mourn for Logan? Not one!"

Such was the great Indian orator who once frequented these lofty mountains and rich rolling valleys. Such was the son of the great Cayuga Chief—Logan. The Juniata was the favorite retreat of the Indian, and no wonder! If it is wild and beautiful now, what must it have been in its primitive glory—when the Indian alone "was monarch of all he surveyed!"—when he pursued the roving deer amidst the solitude of the deep forest, or skimmed the blue waters of the stream in his light canoe! *Apròpos*, a favorite song:



BRIGHT ALFARATA OF THE BLUE JUNIATA.

Wild roved an Indian girl,
Bright Alfarata,
Where sweep the waters
Of the blue Juniata!

Swift as an antelope
Through the forest going,
Loose were her jetty locks
In wavy tresses flowing.

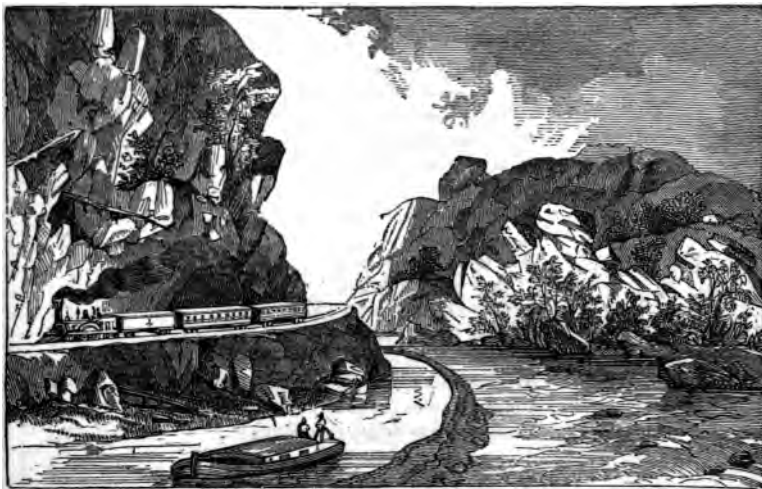
Gay was the mountain song
Of bright Alfarata—
Where sweep the waters
Of the blue Juniata.
Strong and true my arrows are,
In my painted quiver—
Swift goes my light canoe,
A-down the rapid river.

Bold is my warrior good,
The love of Alfarata,
Proud waves his snowy plume
Along the Juniata.
Soft and low he speaks to me,
And then his war-cry sounding,
Rings his voice in thunder loud
From height to height resounding.

So sang the Indian girl,
Bright Alfarata,
Where sweep the waters
Of the blue Juniata.
Fleeting years have borne away
The voice of Alfarata,
Still sweeps the river on
Blue Juniata.

Twelve miles above Lewistown, on the Juniata, and nearly equidistant from Philadelphia and Pittsburg, is McVeytown, a handsome little village, doing some business on the canal. Hanawalt's Cave is near here, and has some interest. It often contains saltpetre, in a crude state, and numerous stalactitic curiosities peculiar to limestone formations. Ten miles further is Newton Hamilton, another pleasant village, principally engaged in the trade of the canal. The great fertility and productiveness of this portion of the country renders this trade by no means insignificant—though much of it will ultimately be attracted to the railroad during that portion of the year when the canal is closed. An enormous quantity of pig iron, flour, grain,

pickled meat and butter, &c., is forwarded from these places in the summer, the stock accumulating during *the winter*. A heavy capital



RAILROAD AND CANAL.

is thus *inactive* for several months, and the advantage of having a railroad, by which a favorable condition of the market may speedily be embraced, is of the highest importance. A much larger business may, in this way, be done with one-fourth the capital, which, together with the saving of time, will more than compensate the trifling difference, if any, in the cost of transportation.

At this place, winding around the gorge of Jack's Mountain, the Juniata follows the boundary line for a few miles, and then enters Huntingdon in a direction nearly north. We are now emphatically and unmistakably in the midst of mountains—bold, rugged, *thundering* mountains!—the most of which have a range nearly north and south, and cross the straight line of our course. No matter—we will pass 'em, and even mount their lofty summits. In Bedford County, which adjoins on the east, there are no less than twelve mountains, including those of the great Alleghany on the west, and Cove on the east, which constitutes its western and eastern boundaries. These

mountains are each known by various local names, and are more or less broken and disrupted as they enter Huntingdon and Blair in the north. The celebrated Broad Top Mountain coal district lies in Bedford, some fifteen miles or more south of the village of Newton Hamilton. This splendid coal district is entirely isolated from the great Alleghany region, with which it was originally connected. The coal, too, is of a better quality, being semi-bituminous in character, and similar to that of the Dauphin coal field, as it approaches the Susquehanna. Being the only spot in a wide expanse of territory where coal is to be had at all, it must be regarded as of great value, and arrangements are now being made to extend a railroad so as to connect it with the lines of improvement on the Juniata. The isolated position of this coal mountain, with other connecting circumstances, go to prove that our anthracite and bituminous beds formed originally one entire and almost complete assemblage, and that they are both of coterminous formation. The mountain ranges are higher and



HUNTINGDON, ON THE JUNIATA.

bolder toward the south-west, where the coal strata are prolonged; while toward the east they have been cut down and detached, and the coal washed away, leaving only a comparatively small amount behind,

and that lying in a position low down, with the stratification generally in a semi-vertical dip. The whole Apalachian chain may, therefore, be regarded as one immense coal-bearing system—but such have been the destructive effects of time, during the countless millions of years it has been exposed, that a very small portion of the original amount of vegetable matter, constituting the coal measures, is now left behind.

Passing the unimportant stations of MOUNT UNION, MAPLETON, and MILL CREEK, we reach the borough of HUNTINGDON, two hundred and four miles from Philadelphia, one hundred and fifty-nine miles from Pittsburg, and ninety-seven miles from Harrisburg. This borough is elevated six hundred and ten feet above tide-water, while the average height of the mountains is about the same. The borough of Huntingdon is the seat of justice of the county of that name, which formerly included the adjoining one of Blair, and was laid out in 1770 by Dr. Smith, Provost of the University of Pennsylvania. The name was bestowed in compliment to the Countess of Huntingdon, who was a liberal contributor to the funds of that institution. The present population of the borough, we should judge, is about eighteen hundred, or more, and is now rapidly increasing under the stimulus of recent and forthcoming important public improvements. The population, too, is very intelligent, and embraces many wealthy families.

The situation of this place, as may be inferred from the sketch of it, is extremely pleasant. Some of the wildest scenery in the State may be found a few miles adjacent—among which may be mentioned the celebrated Pulpit Rocks, on Warrior Ridge, a view of which, from the turnpike, is afforded in the annexed figure, extracted from the work of Mr. Trego, on the Geography of Pennsylvania. The rocks appear equally bold from the railroad, which passes directly along the base of the ridge. These rocks are a coarse-grained cemented sandstone, varying in color, but generally of a yellowish-white, with particles of bright flint. They have attained their present curious appearance from the gradual effects of the atmosphere and rain, which, working out irregular fissures, have thus left standing lofty columns, that frown from their high summits upon the no less rugged and narrow valley below. The mountains of this county are nearly all cut up into bold sharp ridges similar to the above—though it is otherwise one of the most mountainous in the State. Jack's mountain presents a continuous range on the east, and Tussey's on the

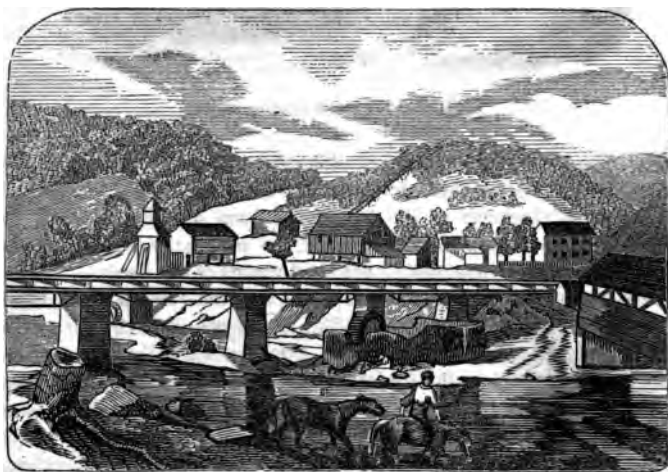


PULPIT ROCKS ON WARRIOR RIDGE.

west; but the others are detached knobs and ridges, which, at one time, probably constituted an unbroken elevation. This broken and disrupted character of the county has been occasioned solely by water, and to substantiate this belief, we need only to point to its numerous streams, comprising the head waters of the Juniata. Thus, rising in Bedford County, and emptying into the Juniata a few miles from Huntingdon, is the snake-like Raystown Branch; rising in Blair, and traversing the middle of that county, is the Frankstown Branch, emptying into the Juniata near Alexandria; rising in the same county, further north, is the Little Juniata, which, at the place above named, forms the main stream, and afterwards receives five or six others—all in the County of Huntingdon. This county is, therefore, more liberally supplied with streams than any other in the State, and every stream, following the narrow gorges of the mountain ridges, presents favorable opportunities for applying its water-power. All the streams have their mills, forges, furnaces, and other iron works, while the whole county is well supplied with timber for the production of charcoal, as well as with beds of limestone and iron ore. Indeed, we are now in the most extensive iron region not only of the

United States, but of the *world*! It is really scarcely known to what an immense extent the iron manufacture of this State has reached. Pennsylvania now produces more iron annually than was manufactured in all Great Britain thirty years ago. Compared to the present manufacture of the article in France, that of Pennsylvania is at least equal—it is more than Russia and Sweden united, and exceeds that of all Germany. Pennsylvania may well be called the Iron State of the Union; and from these mineral treasures, she must build up a prosperity more splendid and permanent than if wrought from gold, for gold is the ultimate product of her iron.

The Juniata, from its mouth at the Susquehanna to its head waters on the Alleghany, forms one continuous and unbroken iron country, and the productions of its furnaces and forges, we have already stated, are amongst the best which enter the market.



UNION FURNACE.

As we are now in the "head quarters" of this stupendous iron district, we shall endeavor to point out some of the prominent features in its manufacture, and therefore commence here, which is the oldest establishment in this part of the country. It was erected nearly fifty years ago by Dorsey and Evans, and was worked successfully during

the greater portion of the time until within two or three years past. It is a charcoal furnace, as are also all the others. Compared with more recent furnaces this affair is quite a curiosity. It is of small calibre, and its life was prolonged from time to time, with additions, supports, and patches, until finally it could stand it no longer, and yielded up its fiery breath. Mr. Ritts, to whose hospitality and that of his amiable wife we must make, as we do with grateful pleasure, our acknowledgments, is the present proprietor, and was the last to work it. Should the iron trade revive, it is probable it may again be set in operation, with such improvements and additions as its decayed condition may call for.

But we cannot enter into the spirit of iron manufactures until we shall have seen BIRMINGHAM—*our* Birmingham. Though not so large as its great namesake in England, it still occupies *high ground*, and is at least in the midst of a tremendous iron country. It is a village of four hundred population, more or less, and is romantically situated, if nothing more can be said of it. The scenery all around it is varied, but wild beyond measure. Speaking of Birmingham, suppose we run over to *Ironville*—a strong name, to be sure, for a small village; yet, standing on an iron foundation, it is properly an iron village. Bridges! bridges!—is there to be no stop to these bridges? This is the most



rascally little river we have yet met with; having crossed during the last five miles at least a dozen of these elegant iron structures, there is yet no end to 'em, for here we are again perched seventy feet in air, over the same stream, looking down at Ironville, nestling there on the

hill! We dash on, and wind around through a deep cut, when—confound the stream—here it is again with another bridge! But hold—here is Blair County, and before us one of the prettiest villages we have yet seen. This is TYRONE, two hundred and twenty-six miles from Philadelphia, one hundred and thirty-nine from Pittsburg, and eight hundred and eighty-six feet above tide water. So, sir, you see we are “getting up in the world,” as the saying is. We already breathe the fresh air of the Alleghany, and it will not be long ere we find ourselves on the top of its loftiest summit. Here then, within sight of old iron-bound Huntingdon, let us indulge some observations in reference to the manufacture of iron, of which this place is in many respects the principal theatre. These extensive works include a furnace at Bald Eagle, a few miles distant, a forge a few hundred yards above, at the water-station, the forge below the railway, (indi-



TYRONE.

cated in the picture,) and some other works scattered over the land connected with them, embracing several thousand acres. The name of the firm is Lyon, Shorb & Co., and the business is conducted here by J. T. Matthias, Esq., a son-in-law of Mr. Shorb. This is, in our opinion, a model iron establishment. There are upwards of two hun-

dred hands regularly employed, averaging ten dollars per week, each; and a more cheerful set of men we never saw—every one, too, we should judge, a sincere admirer of Mr. Matthias. We are probably diverging from the straight line of our object in alluding thus, *en passant*, to a gentleman occupying a position purely private. But it is so unusual a circumstance to hear overseers complimented by their workmen, that for the novelty of the thing we must beg to be excused for mentioning it. When we see a village of cheerful and contented people—neat, intelligent, industrious and orderly; when we see the manager in his store, “busy as a bee” in attending to the wants of his hard-working customers, and only leaving it to dispense the sweet little courtesies of hospitality in his dwelling; when we see all this, nothing could prevent us from believing that *everything is just as it should be!* And if we are not greatly mistaken, the success of these works is as much the result of their careful and judicious management as anything else that could be suggested; while it is notorious that for the want of such management, many of the best establishments are often rendered unproductive and comparatively worthless. While upon iron, we should allude to

THE CORNWALL ORE BANKS.—This celebrated deposit of iron ore, situated in South Lebanon township, Lebanon County, the largest in the State of Pennsylvania, or perhaps in the United States, has been worked for upwards of a century, and has long been celebrated for the quality of the iron produced from it. Mr. Richard C. Taylor, in a report made in 1851, thus speaks of them:

“I need scarcely mention here the well known fact, that the ore banks of Cornwall have acquired no slight celebrity in times past by reason of the peculiar physical features which they exhibit, and on account of the immense quantity of black magnetic iron ore which they contain, and which, for a long series of years, they have furnished to the adjacent furnaces, and even now present unmistakable evidence of a far greater supply as yet untouched, above the ordinary level of the surrounding country.”

The largeness of this deposit, and the cheapness with which it is mined, for it requires no underground work, but merely to be quarried, makes it the most valuable mine of iron ore in the State. The average per centage is fifty, though there is much of it that will yield sixty-five or seventy per cent., being the pure magnetic oxide of iron.

LEBANON FURNACES, situated on the summit of the Union Canal, in

North Lebanon township, Lebanon County, are owned by G. D. Coleman. They consist of two blast furnaces, capable of making ten thousand tons of pig iron per annum, and a large foundry for the manufacture of cast iron pipe. These works, when in full operation, consume about twenty-five thousand tons of anthracite coal, and twenty thousand tons of iron ore; the latter is obtained from the



PICK.



MALLET.

Cornwall Mines. The coal used is from the Pine Grove region. This region of country, on account of the cheapness and richness of the ore of the Cornwall Mines, and its great abundance, must become



WEDGE.



SLEDGE.

one of the great centres for the manufacture of iron, as it presents facilities unequalled in any part of the State.

The instruments or tools for mining are here annexed. The pick,



SHOVEL.

made, according to circumstances, of various forms; but one point is generally edged, and the other pointed. The *mallet* is used for driving wedges, and striking the hand-drill. The *wedge* is driven into crevices,



HAND-DRILL.



TAMPING-BAR.

or small openings, made with the pick to detach pieces from the rock or mine. The *sledge* is a mallet of from five to six pounds weight, and



LEBANON IRON WORKS.



is used to break larger pieces of rock or mine. A miner's *shovel* is pointed, so as to penetrate the coarse and hard fragments of minerals and rocks. All these tools should be well steeled and tempered, and kept in good repair.

Besides these, the miner requires the following *blasting* tools: a *hand-drill*, which is a bar of iron or steel, edged at one end and



FRONT VIEW OF A PENNSYLVANIA BLAST FURNACE.

headed at the other—both well hardened and tempered; the *scraper*, a small iron rod with a hook on one end, to take the bore-meal out of

the hole; and a *copper needle*, which is a simple wire one-fourth of an inch thick, somewhat tapered at one end. The *tamping-bar* is a bar of round iron, with a groove to fit the needle.

The erection of a furnace is a very complicated and hazardous task.



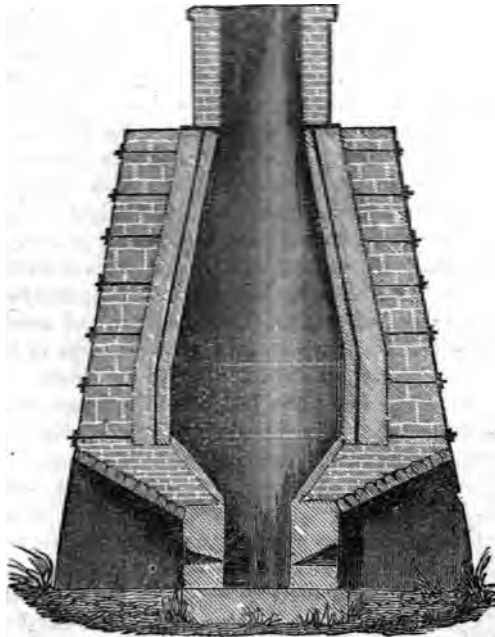
VERTICAL SECTION OF A MODERN CHARCOAL FURNACE.

The stack is always a piece of splendid masonry, requiring the most compact and heat-resisting stones. The engraving on page 111 exhibits

a front view of a furnace stack, as they are ordinarily built—there being little difference in their external appearance, between charcoal and anthracite furnaces; this figure exhibits the prominent features of both.

Charcoal furnaces are built upon one general principle, but vary materially in size and appearance, as well as in their interior structure, according to the kind of ore and fuel, and similar circumstances governing their operations. The interior of the furnace-stack is lined with a wall of fire-brick, or else with fire-grained white sandstone, both of which are well adapted to resist the extraordinary heat to which it is exposed. The lining is situated a few inches from the main stack, the space between being filled in with fragments of stone, sand, and occasionally coarse mortar. This serves to protect the stack from the decomposing effects of the heat. The furnace stack is, moreover, secured from expansion by strong iron girders imbedded in it, as indicated in the engravings. The stack is generally surmounted with an iron or wooden-railling. The height of the furnace, of which the engraving on page 112 is a sketch, is thirty-five feet. The hearth measures five and a half feet from the base to the boshes; its width at the bottom is twenty-four inches, and at the top thirty-six inches. The boshes are nine feet and a half in diameter, and measure from the top of the crucible four feet, thus giving a slope of about 60°. The tryeres are twenty feet above the base of the hearth. The blast is conducted through iron pipes, laid below the bottom-stone of the hearth, into the tryeres. There is little difference, either in the interior or outward structure, between charcoal and anthracite furnaces; but to render our treatise as complete as possible, we append a view of the cross-section of the latter—that of Dr. Eckert, situated near Reading. (The Doctor is one of the most experienced, intelligent, and practical men connected with the iron-trade of this State. He formerly represented the fourteenth district in Congress—the largest and most important one in the Union. He is at present Director of the United States Mint, in Philadelphia, and we know of no man more thoroughly versed in all the practical intricacies and political economy of the coal and iron trade of Pennsylvania.) The height of this furnace is thirty-seven and a half feet; the top six feet in diameter; hearth, five feet high; tryeres twenty-two inches above its bottom; hearth, five feet square at the base, and six feet at the top; boshes inclined 67½°, or six inches to the foot, and measure fourteen feet at their largest diameter. Many of the anthracite furnaces receive their charges of ore and fuel by a very ingenious contrivance,

which was first introduced at the Crane works, near Easton, and is applied at Phoenixville, Safe Harbor, and other places. A reservoir of water is put upon the trunnel-head bridge, where it is kept filled by means of force-pumps from the blast-engine. An iron chain suspended over a pulley carries one or two buckets of sheet iron, sufficiently heavy, when filled, to balance a charge of ore or coal. When

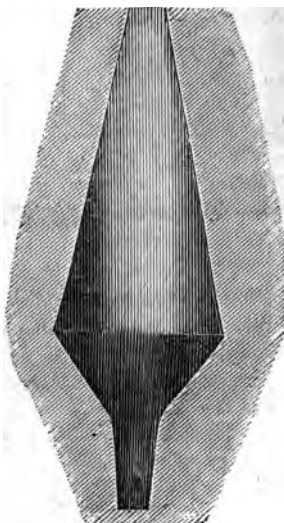


CROSS-SECTION OF AN ANTHRACITE FURNACE.

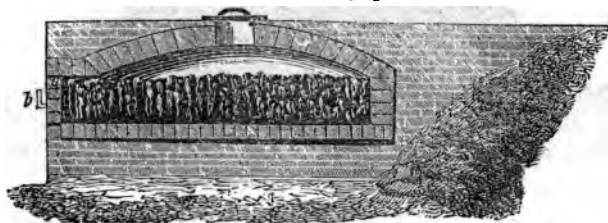
either of these is loaded below, the filler turns a stop-cock, and fills the water bucket or barrel, which descends and lifts up the charge. A valve in the bottom of the water-cask, which is opened by a simple arrangement, permits the water, when it arrives at the proper place, to escape. The platform containing the ore or coal, relieved from its burthen, is charged with empty boxes or barrows, after which it

descends, and the water barrel again rises. This arrangement is peculiarly advantageous when the furnace has no rear elevation by which to approach the trunnel-head, as is the case at the points mentioned, as well as the furnace of Ex-Governor Porter, situated along side of the railroad, at Harrisburg.

The opposite figure exhibits the interior of a Pennsylvania charcoal furnace of the usual dimensions—width of boshes $9\frac{1}{2}$ feet; hearth 5 feet high, two feet in width at bottom, and two and a quarter at the top. Two tons and a half of ore generally produce one ton of metal. For each ton about 180 bushels of charcoal are consumed—varying more or less, according to the quality or kind of wood charred. In charcoal furnaces the fuel, of course, forms one of the leading features. West of the Alleghany, some iron establishments, and a few furnaces, are supplied with coke. To extract the tar, or bituminous matter from the coal, (as also the *sulphur*, which is injurious in the furnace, and disqualifies the coal for use,) the coals are piled on heaps, or in an oven, and heated to a certain extent, when the atmosphere is shut out by covering them with a coat of earth. At many places, however, ovens are

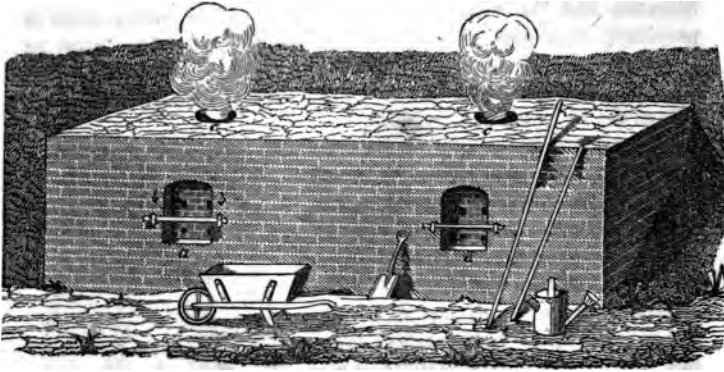


INTERIOR OF A CHARCOAL FURNACE.



COKE OVEN.

built at considerable expense, of which the annexed figure affords an illustration. The oven is erected on the side of a hill, so as to



COKE OVEN.

allow the coal to be hauled and thrown in the top with facility. The interior of the ovens is nearly circular, so as to prevent the matter hanging on the walls, as well, also, to facilitate the process of charring. Two or three tons of bituminous coal are placed in the furnace, when the fire is kindled, after which the doors, *b b* and *a*, are closed, and the bituminous matter separates from the coal, and leaves behind a spongy substance of about the same quality as charred wood. The process is very little different from that of charring wood, and various



SETTING THE WOOD FOR CHARRING.

plans are adopted to effect the same object. As there is neither anthracite nor bituminous coal in any of the counties drained by the

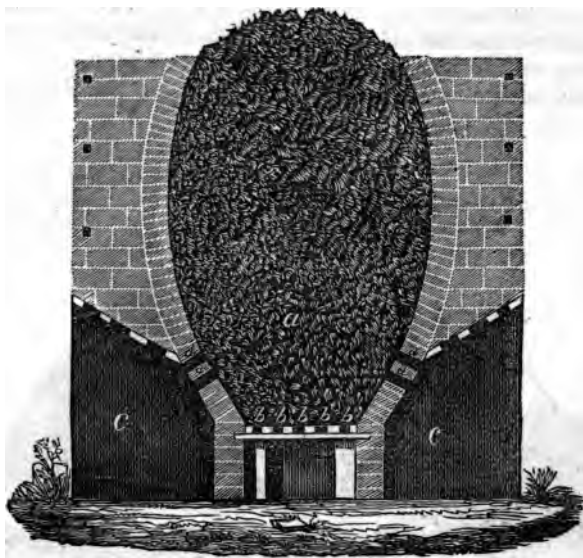
Juniata, (except the great Broad Top Mountain district, lately alluded to, which is consequently highly valuable,) charcoal necessarily constitutes the sole fuel of the iron works. A great difference exists in the value of wood, and charcoal has all the variety and quality of character of fossil coal—the more compact and fine-grained wood yielding the best coal, and principally because it contains less water or sap than other kinds. Tough oak, therefore, for the production of charcoal, is worth one dollar per cord; when common pine is worth about sixty cents. The Alleghanies, particularly on their western slope, are abundantly supplied with oak timber, as well as nearly every other variety generally peculiar to the State, as oaks, poplar, beech, sugar-maple, birch, pines, hickory, &c. The most common mode of burning charcoal, in this State, is in heaps, as represented in the engraving on page 116. The sticks of wood are set close together, in a nearly vertical position. In the centre of the heap, (which is about fifty feet in diameter, or less,) the largest sticks are placed sufficiently



THE PROCESS OF CHARRING.

wide apart to form a chimney, *a*. After the wood is thus carefully arranged, brush-wood and loose earth are thrown over the pile, so as to smother the flame, and prevent its bursting out from the mass of wood. The fire is applied to the wood soon after this covering is

effected, which is increased from time to time, as circumstances seem to require. For the purpose of attracting the fire all around the heap, holes are made in the sides to create draft, through which the watery elements of the wood are expelled, by the heat of the hydrogen, oxygen and carbon, which is, in turn, held in check by the exclusion of atmospheric air. Were the air allowed to circulate, the entire mass of wood would be reduced to ashes. The whole process is extremely intricate, depending for complete success on the state of the weather, as well as the skill and watchfulness of the colliers. The burning lasts two or three days and nights, according to the nature of the wood, and the success attending the operation.

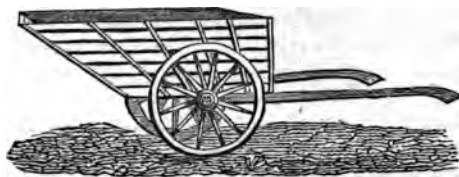


OVEN FOR ROASTING ORE.

The fuel being thus prepared, the next point is in regard to ore. These are of various qualities, and need not be enumerated here. Nearly all ores have to be cleaned, that is, the earthy matter associated with them is removed, either by washing or pounding. After

this many ores are roasted, to effect which kilns are often constructed, somewhat similar to those for burning lime.

In the engraving on page 118, *a* is the shaft hearth, where ore and fuel are thrown in; *b b* are the grate-bars, which can be removed to let down the roasted ore; *c c* are side arches, which permit access to the draft holes; *d d d d* are four arches, including the work arch. To start operations in such an oven, the grate bars are covered with wood; upon this is placed either charcoal or coal; then a layer of coal and ore alternately, until the oven is filled, after which the fire is kindled. When the lower strata of ore are sufficiently roasted, they are taken out at the grate bars. The air-holes, *d d d d* are designed to admit air when necessary, as well as to observe the progress of the work. As the top of the ore sinks, it is replaced by fresh layers. This kind of furnace is used only for the hydrates, carburets, and other easily worked ores, but will not answer for carbonates, sulphurets, or even magnetic ores—for they are too soon smelted. They are generally roasted in heaps in the open air.



COAL BARROW.

Putting a furnace into blast is a very delicate and responsible task—requiring great prudence, watchfulness, and activity. To supply the furnace with fuel, a barrow, similar to the above, is employed. A new furnace requires firing for two or three weeks before the regular charges of ore can be thrown in. After the stack and hearth-stone are sufficiently dry, the charges of ore are introduced in small quantities, and are afterwards gradually increased.

The furnace is always exposed, at the outlet, to the liability of chilling; that is, the iron clinkers in the interior, and suddenly cools near the mouth or top-hole, impairing the draft, and not unfrequently entirely choking it up, in which case the whole interior work has

sometimes to be taken out and rebuilt. Under these circumstances, introduction of the charges of ore and fuel becomes an important matter. A measure often used, similar to the above, is constructed of two half-inch round iron-bars, so connected at one end that one bar sinks into the furnace, while the other serves as a handle; *b*

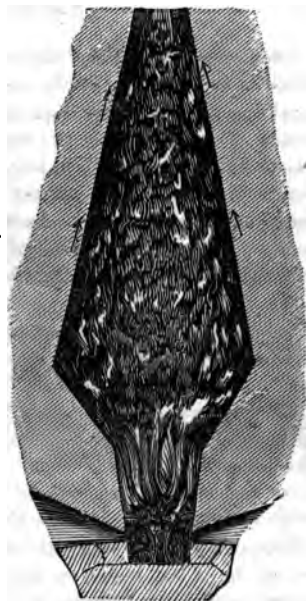


CHARGE MEASURE OF FURNACES.

forming the handle; *c* the measure, and the iron plate, *a*, prevents the sinking of the rod into the materials. There are various other devices to effect the same object, but these are the most common and simple.

The philosophical principles of the blast furnace, or the causes which separate the several substances with which it is charged and precipitate the metals of the ore, are by no means easily disclosed. While the effects produced are generally well understood, the nature of those chemical and mechanical changes and combinations, formed by the decomposition of the combustible material in the blast, during the various stages of ignition through which it passes, is not easily explained. The engraving on page 121 exhibits Mr. Overman's theory of the blast, according to which it appears that, at *a*, (the points where the blast is received,) the first operation of ignition commences. Here the chemical composition of the material in the furnace undergoes an important change, the immediate result of which is a new combination of fiery matter, which is borne along with great force by the ascending draft. The iron ore, being less combustible, is thrown against the walls of the furnace, where it is liable to form benches or projecting arms of clinker. The fiery draft, by its peculiar chemical qualities, penetrates the

pores of the iron ore, and *uniting with its combustible parts*, precipitates the metal in a fluid state. The metal, as it sinks, still bears off a certain quantity of the gases, as well as more or less of the earthy matter originally conglomerated with it—hence the lava which always floats upon the surface of the pure metal. To thoroughly perform this operation in the furnace requires a due mixture of fuel and fluxes with the ore, while the ore itself has often to be mixed with other ores, combining different chemical or mineral qualities, to secure safe and easy working in the furnace, as well as pure metal. What is known, therefore, as *rich ore*, (or ore which yields a large per centage of metal,) is really not rich when estimated in reference to economical working in the furnace, for such ores are necessarily heavy, compact, and hard to penetrate by the blast, thereby consuming more fuel, and exposing the furnace to irregularities and other dangers. In short, rich ores have generally to be mixed with poor ores, and, in point of economy for smelting, one is scarcely more valuable than the other. The furnace is usually tapped at intervals of twelve hours. The cinders or lava is first allowed to escape,



THEORY OF THE BLAST FURNACE.

after which the metal flows out, and travels through iron troughs, or canals made in damp sand, and reaching the beds prepared for it, is cut off into pieces of about two feet in length, and probably eight inches in circumference. Here the metal is imbedded in moulds, and becomes cool in a short time. This is what is called *pig iron*, and here ends the whole process of smelting the ore in the furnace.

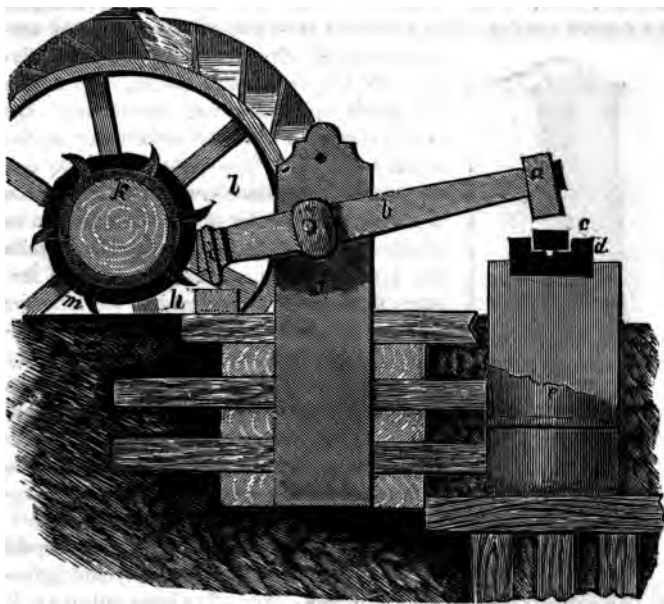
One of the most interesting and beautiful sights which the varied arts of civilized man can afford, is the operation of tapping the metal from the furnace. The metal wildly issues forth in a red translucent

liquid, leaping along the little banks and curvatures of the canals, as if right glad to escape from the prison where

*Black spirits and white,
Blue spirits and gray,
Mingle, mingle, mingle,
They that mingle may !*

Thus released from the clay and rock with which it was lately associated in the "bowels of the earth," it comes forward, crackling and sparkling, to play a very important part in the progressive and varied scenes of man. To see the stubborn, cold, hard rocks thus turned into threads of molten iron, leaping and creeping submissively at our feet, is, indeed, a scene interesting alike to our sight and pride, and gratifying to contemplate. Such scenes undoubtedly raise the human family still higher in the scale of moral grandeur—for it is here where civilized man forges his thunderbolts against ignorance and oppression ;—it is here where he asserts the majesty of mind and the glory of labour ;—it is here where, by the metals raised from the caverns of mountains, "he obtains strength for his hands, and subjects all nature to his use and pleasure."

After the metal leaves the furnace, it is subjected to various manipulations, depending on the use and form to which it is to be applied. The immediate object of these manipulations, is to render the metal purer and stronger, as well as to put it in size and shape for still further working. Pig iron is always converted into blooms, and this is done either in the forge-fire or the puddling furnace. The forge-fire is the oldest made, as well as the most simple—there being no material difference between it and the common fire of the blacksmith, except in the heavier character of the former. A mass of metal is thus melted and carried to the forge-hammer, which is moved by machinery, and gives a tremendous blow. Whatever impurities are in the metal, will be pretty well hammered out under this huge hammer, and the metal, as it cools, is formed into rounded pieces, about a foot in length, which are called *blooms*. In the annexed figure, p. 123, *a* is the hammer, weighing from one hundred to four hundred pounds. It is strongly wedged to the helve, *b*, which is moved by the projecting teeth *h*, of the cylinder *k*. This cylinder is made to revolve by the water or fly-wheel, *m*. The hot metal is laid under the hammer, upon the platform *d*. The metal is temporarily connected with an

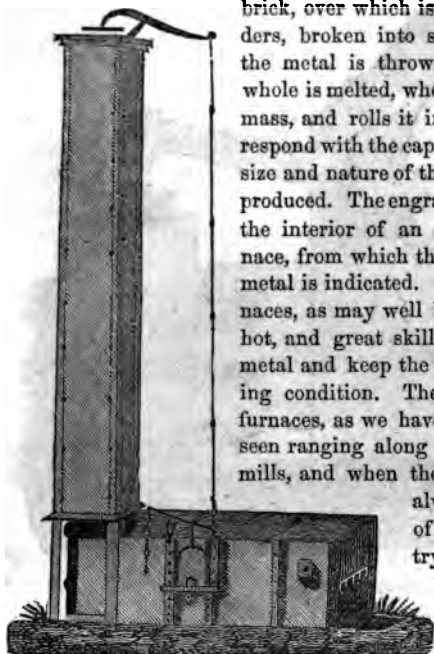


FORGE HAMMER.

iron handle, so as to guide it under the hammer, and is cut off after the bloom is perfected.

After leaving the forge-hammer, the bloom is ready for conversion into rolled or bar iron of every description, preparatory to which it undergoes some additional working in the puddling or heating furnaces—especially the pig metal of the anthracite furnaces of the eastern counties of Pennsylvania, which is much more impure than charcoal iron. This iron, in fact, is not forged at all; but after being puddled is taken to the squeezer, formed into blooms, and is then ready, after re-heating, for the rollers. The puddling-furnaces are always erected in the interior of rolling-mills, and their tall chimneys are seen projecting all around the building. They are built singly and doubly, of various dimensions, but on one general principle. By their aid iron, otherwise valueless, can be made perfectly good, which

cannot be done in the forge. Besides this, iron can be produced of any desired quality. The hearth is most generally composed of fire-

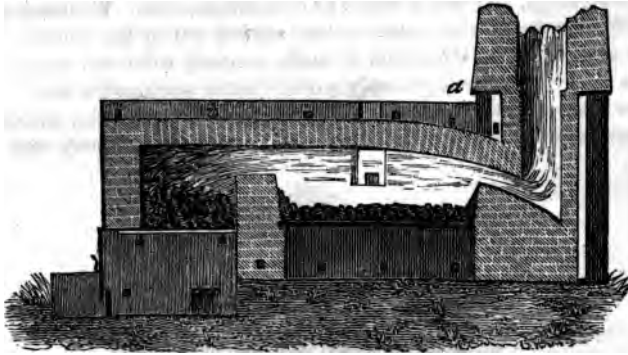


VIEW OF A PUDDLING FURNACE.

brick, over which is a coating of furnace cinders, broken into small pieces. Upon this the metal is thrown, and heated until the whole is melted, when the puddler stirs up the mass, and rolls it into balls of sizes to correspond with the capacity of the rollers, or the size and nature of the pieces of bar iron to be produced. The engraving on page 125 exhibits the interior of an anthracite puddling furnace, from which the process of working the metal is indicated. The interior of these furnaces, as may well be supposed, is intensely hot, and great skill is required to work the metal and keep the furnace in proper working condition. The chimney tops of these furnaces, as we have just remarked, may be seen ranging along the roofs of all rolling-mills, and when they are in full operation, always present an aspect of great activity and industry. The large railroad mill at Safe Harbor, when all the doors are opened in the summer time, affords, in the evening, one of the most

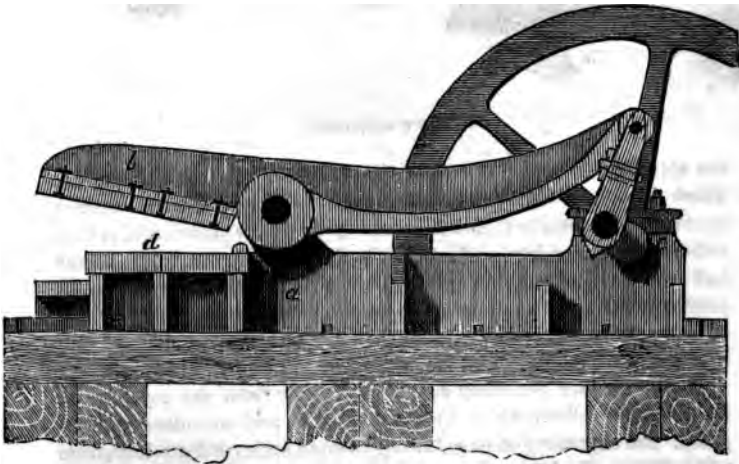
picturesque scenes that could be imagined. The fire of the numerous puddling and heating furnaces—the red glare of the blooms, as they are borne along to the squeezer—the pale translucent heat of the flat plates, as they are run through the rollers—the rattle and movements of the stupendous and complicated machinery—the peculiar buzz and extraordinary evolutions of the large fly-wheel—the hasty and determined movements of upwards of three hundred athletic artisans—all convey an idea of industry and enterprise perfectly magnificent to contemplate. It might be supposed that such a place, at such a time, would be almost as hot as the puddling furnaces themselves—but

such is the ventilation of these large establishments, that they are by no means uncomfortable, notwithstanding the great heat of the fires, in the hottest weather of the season.



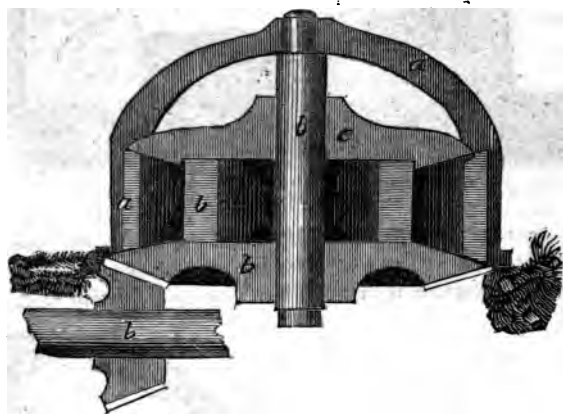
VIEW OF THE INTERIOR OF A PUDDLING FURNACE.

When the metal is sufficiently boiled and worked in the puddling furnace, it is rolled into as compact a ball as possible, and then with all convenient despatch is borne in iron pincers to the squeezer.



SQUEEZER FOR BLOOMS.

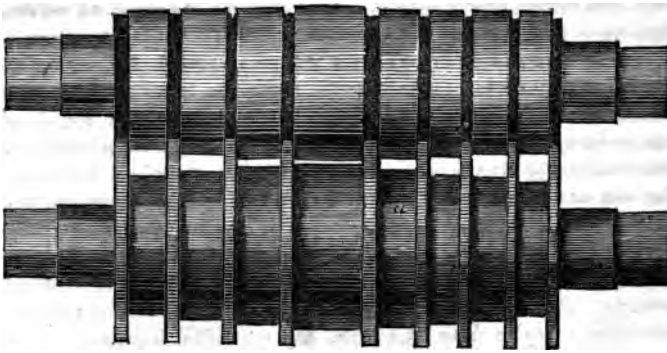
The object of the squeezer is indicated by the *name*. The red hot ball is placed into its iron jaws at *d*, and is thus pressed at every evolution of the wheel which drives it—the bloom being still held by tongs, and turned round as occasion requires. Whatever impurity may be in the metals is thus worked out by the squeezer, at the same time that the bloom is made perfectly solid and compact. The rotary squeezer is probably a much better machine for this purpose than any other now in use, inasmuch as it saves labor, and performs the work in a very brief space of time. The stationary part of



ROTARY SQUEEZER.

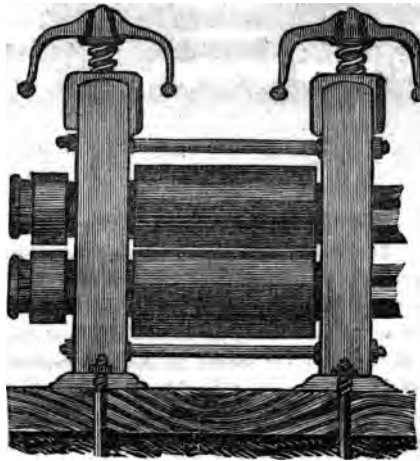
the apparatus is marked *a a*, and consists chiefly of a cast iron cloak, which encloses the movable parts, *b b b*. An eccentric space between the two main parts is thus left, in which the ball is placed, and is thus rolled and pressed into a bloom by the time it comes out. The heated ball makes a rumbling noise in its passage through the rotary squeezer, accompanied with one or two very loud reports or explosions. The squeezer, however, is very compactly built, and is so constructed that it cannot well be choked up or broken by too large a charge.

The blooms are generally conveyed directly from the squeezer to the roughing rollers, where they are thinned and considerably elongated. The engraving on page 127 represents a series of flat rollers, from which the gradual transition of the metal in a round to a long and



FLAT ROLLERS.

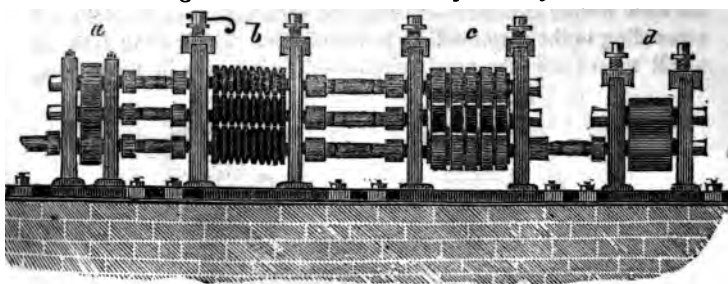
flat form will be indicated—entering the square space on the right and proceeding to the groove-rollers in the middle. The leading features of all rollers are very nearly similar—differing only in their form,



ROLLERS FOR SHEET-IRON.

strength, and dimensions. Roughing rollers are, therefore, merely adapted to the rough form of the bloom, which they elongate by pres-

sure, and render nearly square. After leaving the roughing rollers, the iron is taken to such rollers as will reduce it to the desired shape—if it is to be run into square bars it will pass through the grooves of the flat rollers—if in broad sheets for sheet-iron, it will pass through rollers like those indicated on page 127, or if in small round or square bars, like those of the figure below. For sheet-iron and wire, charcoal iron is always best. In ancient times sheet-iron and other flat iron was hammered out from the blooms by forge-hammers, and then flattened, and the surface smoothed by smaller hammers over the anvil. This method is still pursued in some portions of Europe, where labor is not of as much consideration and value as it is in this country. For this reason we are compelled to resort to machinery whenever it can be done, and hence the proverbial ingenuity of our countrymen, as evinced in every department of the useful arts. The iron to be wrought into broad sheets must previously have been run

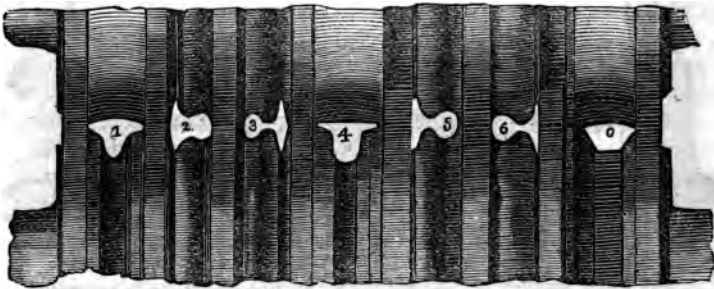


ROLLERS FOR SMALL BARS.

into flat bars. It should be a clear, white, and fibrous iron, and adapted to the progressive capacity of the rollers. The wrenches on the top screws of the rollers in the figure above, form a cross, so as to expose a handle to the workmen, by means of which they are enabled to regulate the *thickness* of the sheets, as the iron passes between the rollers. The sheet, which soon resembles sheet-iron in point of thinness, is then reheated, and again passed through the rollers, after which two sheets are rolled together. Sheet-iron is thus made of any required thickness, from the strong tenacious boiler-iron to the thin wafery sheet.

The iron for small round and square bars is run through rollers similar to the above—first passing the flat grooves at *a* and *d*, then *c*,

and finally at *b*, where it is cut off into long thin rods, similar to those used by blacksmiths and machinists. The process is simple. In rolling railroad bars, the *né plus ultra* of the art is achieved. The blooms are, of course, very heavy, and the whole process of rolling is on a scale much more stupendous than any other kind of work. The annexed figure shows the gradual transformation of the square billet, when introduced here. It is received at No. 1, and after passing through, is run through numbers 2 and 3. Number 4 presses the bottom and top smooth, and works the bottom flanch down to its



GROOVES FOR RAILROAD IRON.

proper thickness, and somewhat broader. Nos. 5 and 6 are almost of equal form and size, giving the finish to the rail. The decrement of the grooves is very limited, and there is no difficulty whatever in making a straight rail, even with one groove less. To run the heavy rails through the rollers is, as may well be supposed, a herculean task—but machinery is brought to bear in this, as in every other department of the business. Chains are suspended from sliding pulleys fixed in frame-work over the heads of the operatives, to which huge tongs are attached. These are guided by the workmen, and the long red hot rail is seized and conducted to the groove, where the revolving rollers grasp it. As soon as it appears on the other side, another set of men, with tongs in readiness, grasp it, and immediately return it through another groove. And thus, after five or six passages through the rollers, the rail appears with its peculiar form, and now only needs to be cut off smoothly at both ends, and, if crooked, straightened out, to complete it. The sawing machine, for cutting the ends of the rail,

is exhibited in the engraving below. The saws are circular, and are put in motion by the straps at *a*. But one end of the rail is cut at the same time—that done, the rail is drawn under the saw at the other end, and cut off in like manner. Equal lengths are not generally demanded by Railroad companies, hence they are sometimes a little longer and sometimes shorter than the uniform length sought. After the ends are thus cut off, the rail is subjected to a few simple processes to render it perfectly straight, after which the whole work is completed.



SAWING APPARATUS FOR CUTTING RAILROAD IRON.

The whole number of charcoal furnaces supposed to be in operation in Pennsylvania, is about two hundred and eighty, yielding an annual product of two hundred and fifty thousand tons. The number of anthracite furnaces we estimate at fifty, yielding one hundred thousand tons, making the total of furnaces in the State three hundred and thirty, and the aggregate yield three hundred and fifty thousand tons. Under the tariff act of 1842, the number of furnaces, especially anthracite, increased at a most extraordinary rate—having almost doubled the entire number during the few years it remained in force. The present law, however, has all along operated unfavorably, and while many works have been suspended very few new ones have been put up. There is at this time, however, probably not less than fifteen millions of dollars invested in the production of iron, exclusive of about \$6,000,000 invested in rolling-mills, and similar works for the conversion of the metal into forms for use, making the aggregate sum about \$21,000,000. This, we think, is a moderate estimate, based on practical data. The number of persons employed in mining the anthracite and iron ore, is about five thousand; in making the charcoal, fifteen thousand; total, twenty thousand. The number of per-

sons directly dependent on this description of labor may be stated at seventy thousand ; of those supported by their labor in the conversion of pig iron, ninety thousand ; and of the population connected with the production of iron, one hundred thousand—making the total number of persons directly and indirectly concerned in iron manufactures, in Pennsylvania, including miners and colliers, two hundred and eighty thousand. Besides this a large number are employed in the manufactories of machinery ; in the transportation, sale, shipment, and other branches of the trade.

We have thus endeavored to present the outline features of several of the more prominent points of inquiry upon iron manufactures. To describe particularly the whole process would require a volume thrice the extent of these pages. To those desiring more elaborate information, and scientific and practical data, we would commend the able work of Mr. Overman, already alluded to, which combines all on this subject that the most practical and curious could desire. Nearly all the foregoing illustrations are copied, by permission of the publisher, from this work : H. C. Baird, Philadelphia.

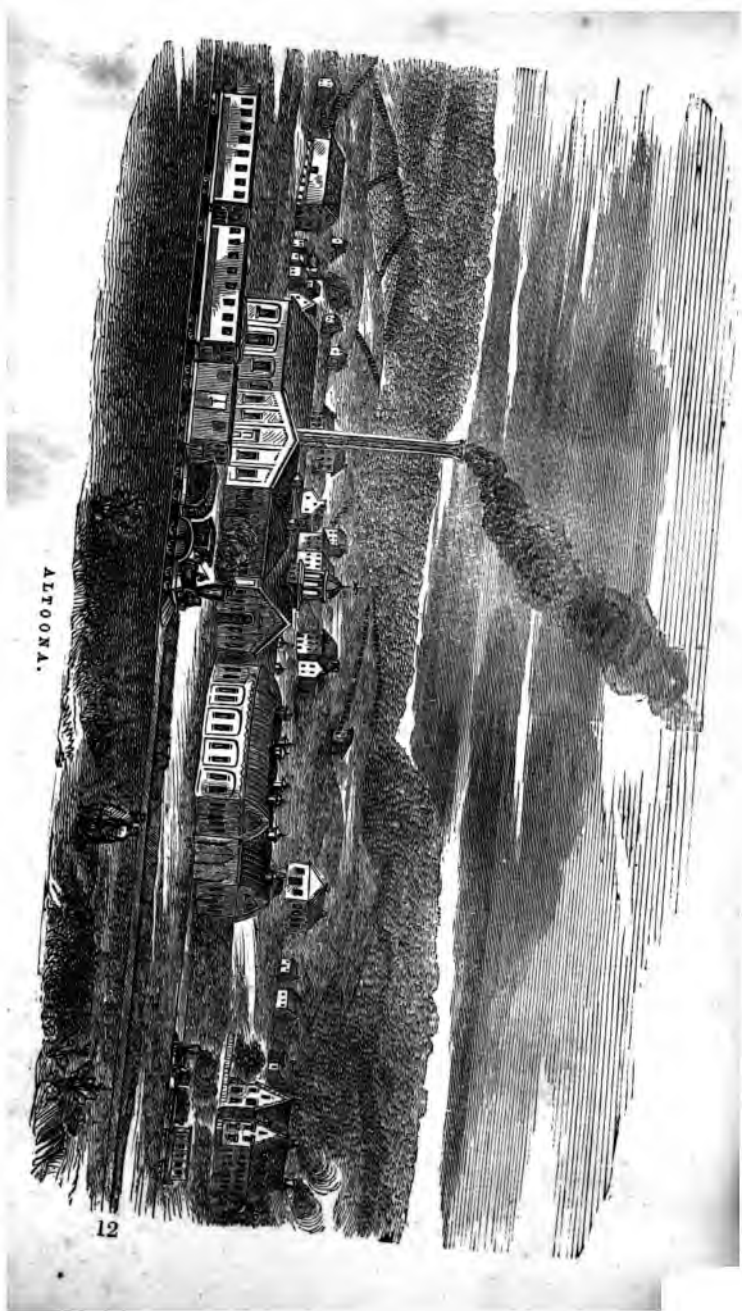
A short distance from Tyrone station is the celebrated SINKING SPRING, situated in a limestone formation, in the valley bearing the same name. It is an object of great interest, and well deserves a visit from the passing traveller. The spring, where the water emerges, is called Arch Spring, because it rises in a large limestone rock, with a high arch overhanging. As the stream runs along amidst the wildest scenery, it receives additions from smaller springs, when finally the whole volume of water disappears in a large cavern, and again enters the bowels of the earth. In the inside of this rocky cavern the stream continues from eighteen to twenty feet wide. The roof declines as you advance, and a ledge of loose rugged rock keeps in tolerable order upon one side, affording means to scramble along. In the midst of this cave are large quantities of brush, fragments of trees and branches, and such like matter, lodged quite up to the roof, thus indicating that the water, during freshets, is swelled up to the full capacity of its rocky jaws. This opening continues several hundred yards, when the cavern opens into a spacious room, at the bottom of which is a great vortex, into which the water is precipitated, and whirls round with amazing force. The stream is supposed to pass several miles under Brush and Cove Mountains, and to re-appear by two branches, which empty into the Frankstown branch of the Juniata.

Opposite the station at Tyrone, on the left, we have **Tussey's Mountain**, and on the right the bold ridge constituting the **Bald Eagle Mountain**, celebrated for its deposits of iron ore. The whole country here, however, is filled with iron ore and limestone, with some thin layers of the carbonate of lead, which, many years ago, excited a great deal of attention. A few hundred yards above this station is **TYRONE CITY**, a sprightly little village, sailing with flying colors under a prosperous breeze. All it wants to become a city in reality, is fair play and plenty of time. It already has the name, and makes a decent exhibit of several brick houses, among which is a hotel, which looks large enough to accommodate a crowd of hungry summer tourists. We say *hungry*, because we happen to know something about it. Turn a city "pale-face" loose among these mountains, let him ramble boldly amongst the foxes, and snakes, and bears that frequent them, and if he never before knew *Appetite*, he will soon become familiar with him.

Passing the unimportant stations of **TIPTON'S RUN**, **FASTORIA**, **BELL'S MILLS**, and **BLAIR FURNACE**, we arrive at the intersection of the branch and main line of the railway at **ALTOONA**. The branch road extends six miles to **Hollidaysburg**, where it meets the **Alleghany Portage** road, already mentioned as crossing the mountain by means of inclined-planes and stationary steam-engines. The main branch of the Central Railroad, between Altoona on the eastern, and a point a few miles from **Conemaugh** station on the western slope of the mountain, is still in an unfinished state, but will probably be ready for use in the course of the next ensuing eight months. This road boldly climbs the mountain without the assistance of inclined-planes. The ascent is accomplished in twelve and a half miles, by a maximum gradiate of eighty-four and a half feet on straight lines, reduced on curvatures, according to their diameter, to seventy-five feet upon those of minimum radii. To reduce the elevation to be overcome, from the foot to the summit of the mountain, a tunnel has been driven through it at the highest elevation of the road, which is over eleven hundred yards in length. The elevation of this tunnel above tide-water is nearly twenty-two hundred feet! The whole distance across the mountain from Altoona to **CONEMAUGH** station is about thirty-five miles, or about the same distance as the present Portage Railroad with its *ten inclined planes*!

A brief description of this road, or some of its most prominent

ALTOONA, PA.





characteristics, may not prove uninteresting in this place. It is, without doubt, all things considered, the most complete, the most substantial, the most interesting railroad improvement yet constructed in the United States. It was commenced in 1847, and will be completed throughout, with single track and sidings, in the ensuing year. It extends from Harrisburg to Pittsburg, connecting the Ohio River with the capitol of the State, and by means of the railroads already finished, on the east, with Philadelphia, the second city in point of population on the Western continent, and first in the natural resources of the country tributary to it. The length of the Pennsylvania Railroad is two hundred and forty-eight miles, of which about two hundred and twelve miles are now in successful operation—while the whole of the remaining portion is under contract, and rapidly advancing towards completion. The route of this road, although it intersects in its course all of the mountain ranges of the State, is highly favorable.

The Alleghany Mountain is the only one not severed to its base by either the Susquehanna, Juniata, or Conemaugh Rivers, the valleys of which are followed by the railroad through the great gateways nature has opened for its accommodation. The distance from Harrisburg to Altoona, at the foot of the eastern slope of the mountains, is one hundred and thirty one miles, and the ascent overcome is eight hundred and fifty-eight feet. The steepest ascending gradient on this part of the road, passing eastwardly, is ten and a half feet per mile, and westwardly twenty-one feet per mile. From Altoona to Pittsburg the steepest gradient is fifty-two and eight-tenths feet per mile, with the exception of nearly twelve miles of the eastern slope of the mountain already referred to, where a maximum gradient of eighty-four and a half feet on straight lines, reduced to seventy-five feet by means of curvatures, is encountered, upon which extra locomotive power may be employed, locomotive stations being located on both sides of the mountain, at Altoona and Conemaugh, near Johnstown.

The Baltimore and Ohio Railroad overcomes this mountain by a maximum gradient fifteen miles in length, of one hundred and sixteen feet per mile, and descends upon the west side, at the same rate, for eight miles. It also overcomes Laurel Hill, which is avoided on our route by a tunnel four thousand two hundred feet long, with gradients on each side of one hundred and five feet per mile.

The Pennsylvania Road is graded for a double track in all the tunnels and rock cuttings, and much of the earth work; the masonry

in all cases is constructed for a double track. Thirty-nine miles of the mountain division, and thirty-four immediately east of it, it is proposed to lay with a double track at once; and on the rest of the line there will be sidings every five miles.

The superstructure is of the most substantial character. The cross ties of white-oak, eight by eight inches, eight and a half feet long, placed two and a half feet apart, are imbedded in ballasts of broken stone, twenty inches in *depth*. This is one of the finest features of the road, for while it gives it a substantial and solid basis, it prevents the *accumulation of dust*, so annoying to passengers on every other railroad with which we are acquainted. Indeed, summer travelling on many railroads, by reason of the dust, is rendered a source not of pleasure, but of downright suffering and fatigue. Another splendid feature, which has already been alluded to in connection with the *Salt Harbor* and *Phoenixville* Railroad mills, is the heavy and substantial character of the railroad iron. The rails weigh sixty-four pounds to the yard, except on the steep grades of the Alleghany mountain, where their weight is increased to *seventy-six pounds to the yard*! These rails are all of American manufacture, and no one need to be told of their great superiority over similar iron imported from England. One-half the accidents occurring on railroads are to be attributed to the inferior quality and lightness of the railroad iron. The buildings and bridges, we have also observed before, are of the most approved, elegant, and substantial character; and the examples afforded by our illustrations will abundantly establish their superiority over structures of the same class on other railroad lines. In the words of the Ethiopian song:

We've travelled East,
And we've travelled West,
And we've been to Alabama;

but in all our travels we never saw a more complete, systematic, and interesting railroad line than this, the pride of the Keystone State. While very little has been expended in unnecessary ornament, no expense has been spared which was required to secure substantial excellence. From Altoona to Pittsburg, one hundred and seventeen miles, there are only two wooden bridges, each of about one hundred feet span, all the others being constructed of stone or iron.

Bituminous coal abounds on the western part of the road from Pittsburg to the summit of the Alleghany Mountain, a distance of one

hundred and five miles, the road passing in this distance through numerous veins varying from four to thirteen feet in thickness. The extensive coal field at Broad Top Mountain is within fifteen miles of the road, at a point one hundred and fifty-five miles east of Pittsburg and ninety west of Harrisburg, while, in the valley of the Susquehanna, the road is in the immediate vicinity of the anthracite coal region.

At Harrisburg commences the Harrisburg and Lancaster Railroad, thirty-six miles long, now leased and worked by the Pennsylvania Railroad Company. This road intersects the Columbia Railroad at Lancaster, completing the railroad communication to the city of Philadelphia. The distance from Harrisburg to Philadelphia is one hundred and six miles, but improvements are now in progress upon the Columbia Road which will save about four miles, making the whole distance, from Pittsburg to Philadelphia, three hundred and fifty miles. A railroad, running from Harrisburg *via* Cornwall, Ephrata, and Phoenixville, to Philadelphia, is now being surveyed, and will probably be completed in a short time. This will be a shorter route than the present State Road, and may possibly be used hereafter by this line for the transportation of its passengers.

At Harrisburg the line of railroads leading to Baltimore and Washington also commences. The distance from Harrisburg to Baltimore is eighty-five miles, and from Pittsburg to Baltimore, by this route, three hundred and thirty-three miles. The above eastern and southern connections are completed. Pittsburg, the western terminus of the Pennsylvania Railroad, is a most important manufacturing city, and has been appropriately styled the "Birmingham of America." Its population, including that of the suburban towns, is about one hundred thousand. The position of the city, on the Ohio, at the head of navigation for first-class steamers, connects it, through the Mississippi and its tributaries, with the south and west by several thousand miles of continuous steamboat navigation, which alone will draw to it sufficient business for transportation to and from the seaboard to insure the success of the Pennsylvania Railroad. But as this navigation is subject to interruptions from low water, regularity of intercourse, as well as a direct connection with the interior and the lakes, seemed to demand railroad facilities to secure the control of the travel and carriage of valuable freights to this route.

The railroads and canals hitherto constructed to accommodate the

population of Ohio and Indiana have generally a north and south direction, connecting the fertile central region with the Ohio River and Lake Erie. Within a few years the importance of a more direct eastern communication with the seaboard has been appreciated, and several great leading lines have been projected and commenced to secure this object. That which has made most progress is the Ohio and Pennsylvania Railroad, commencing at Pittsburg, and extending westwardly through the most fertile and populous part of Ohio, to the new town called Crestline, on the Columbus and Cleveland Railroad, a distance of one hundred and eighty miles. From Crestline a railroad is completed to the city of Cincinnati, on the Ohio River; another has been commenced to Fort Wayne, in Indiana, which will be extended to Chicago, on Lake Michigan; another will be completed in the coming twelve months, from Crestline, through Bellefontaine and Indianapolis, to Terre Haute, on the western boundary of the State of Indiana, a distance of two hundred and seventy-five miles. The extension of this to the city of St. Louis, on the Mississippi, one hundred and seventy miles further, has been commenced. Of the completion of this entire direct continuous railroad from Philadelphia to St. Louis, a distance of nine hundred and seventy-six miles, within two years, there can be no doubt. The region traversed by this route is equal in fertility to any portion of the globe, and is inhabited by a people who have the sagacity and enterprise to improve and draw from it all that the bountiful hand of the Creator has designed for it.

The Ohio and Pennsylvania Railroad is now completed to Massillon, one hundred and four miles. At Alliance, eighty-four miles from Pittsburg, it intersects the Cleveland and Pittsburg Railroad, which is completed from that point to Cleveland, making a direct railroad communication between Pittsburg and Lake Erie, one hundred and forty miles long. From Cleveland to the City of New York, by way of the Pennsylvania Railroad, the distance is now forty miles shorter than by the New York and Erie Railroad; and must consequently command the travel from the Western States to that commercial emporium.

The Pittsburg and Steubenville Railroad will connect this line with the Steubenville and Indiana Railroad, and accommodate the centre of Ohio; while the Hempfield Railroad from Greensburg, thirty miles east of Pittsburg, to Wheeling, will connect it with the southern portions of that State, through the Marietta, Chillicothe and Cincinnati

road, upon which line an unbroken gauge of track may be secured to St. Louis. These form the leading eastern communications in Ohio, already alluded to; and to these, and especially the Ohio and Pennsylvania road, all the north and south lines from Cleveland, Sandusky, Lexington, Louisville, Evansville, &c., will become tributaries, concentrating the trade and travel of the great Mississippi basin, and pouring it over the Pennsylvania Railroad and the main trunk connecting the commercial and manufacturing interest of the East with the rich agricultural regions of the West.

Calculations of the amount of transportation and travel that will pass over this great highway appear, in view of these facts, to be superfluous. All its rivals are inferior in character, more expensive to work, and encumbered by a disproportionate debt. It has therefore nothing to fear from rivalry, either on the north or the south; and its business will only be limited by the capacity of a first class double track railroad.

In its present incomplete condition it yields a net revenue of more than *eight per cent.* upon the capital expended in its construction, and has attained a tonnage, ere it has reached its western terminus, nearly as great as can be carried with regularity upon a single track road.

The entire estimated cost of the road, finished with a single track and sidings, and equipments, including freight and passenger stations at Philadelphia, is \$12,300,000. The whole amount of subscriptions, thus far, exceed ten millions of dollars, and the work of the Company has been prosecuted without incurring a dollar of debt. The remaining amount to complete and equip the road is now being subscribed, and presents a splendid inducement for the investment of the capital.

The following statement exhibits the receipts and expenditures of the road for the year ending 1851:

From Passengers, Mails, Express, &c. on Pennsylvania Railroad,	\$315,145 33
From Lancaster, Columbia, and Portage Railroads,	371,164 54
Total Receipts from Passengers, Mails, &c.,	686,309 78
Total Receipts from Freight,	353,255 72
Total Receipts,	1,039,565 59

EXPENSES.			
Maintenance of Way,	-	-	\$51,547 66
Maintenance of Cars,	-	-	20,611 28
Motive Power,	-	-	78,173 68
Conducting Transportation, including tolls and expenses on State and Harrisburg & Lancaster Railroads,		556,307 57	706,640 19
Balance, or Total Net Receipts,	-	-	\$332,925 40

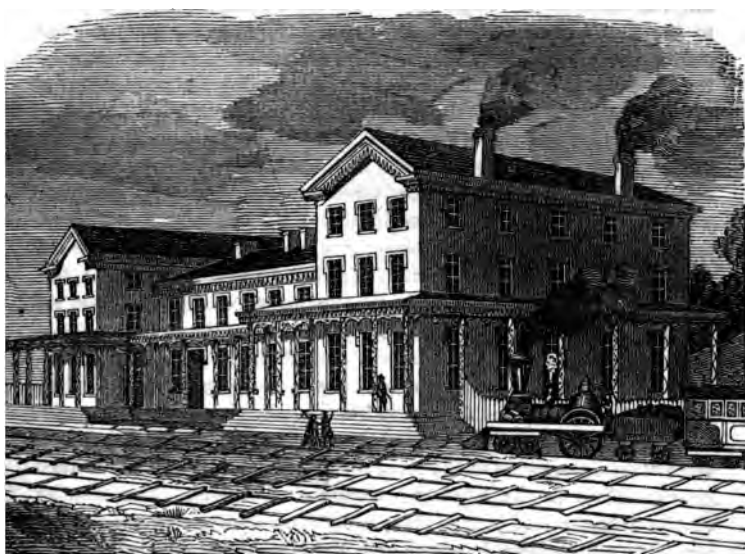
The following statement will exhibit the receipts of the Company since the commencement of the present fiscal year.

For January,	-	-	-	-	-	-	\$ 98,772 50
February,	-	-	-	-	-	-	157,251 13
March,	-	-	-	-	-	-	245,373 71
April,	-	-	-	-	-	-	206,408 94
May,	-	-	-	-	-	-	163,183 84
June,	-	-	-	-	-	-	123,752 83
July,	-	-	-	-	-	-	114,479 52
August, 1st week,	-	-	-	-	-	-	28,040 04
Total,	-	-	-	-	-	-	\$1,132,262 59
Same months last year,							584,995 92
Difference, or increase,	-						\$547,266 67

ALTOONA, (two hundred and thirty-eight miles from Philadelphia, one hundred and twenty-five from Pittsburg, and elevated eleven hundred and sixty-eight feet above tide-water,) will ultimately become one of the most important places on this route. And it is a source of satisfaction to perceive that there is plenty of room, and that admirably situated, for a large and flourishing town. The surrounding country, being the rich slope of the Alleghany, is highly cultivable, and only needs an industrious farming population to clothe it in the lively colors of growing crops. Altoona contains the machine-shops and engine-houses for the western section of the road, and the hands employed in them together with the agents of the road stationed here, will be quite sufficient to people a village of more than ordinary pretensions. The Railroad Company has already erected several handsome buildings, besides the machine shops referred to, (which will soon be enlarged to twice their present capacity) and after the piece of road overcoming the mountain is finished, a large and splendid hotel will be added, with numerous other buildings for private resi-

dences. If lots can be purchased, we know of no place along the line where money could be invested with a safer prospect of future profit.

Six miles further, following the branch road, we reach the foot of the Alleghany mountain, our steam-horse bringing us directly in front of a spacious and showy hotel, very properly called *the Mountain House*. HOLLIDAYSBURG, the termination of the eastern division of the Pennsylvania Canal, lies about one mile south of us. It is a busy place, suddenly called into existence and principally supported by the trade of the canal, and contains a population of about twenty-five hun-



THE MOUNTAIN HOUSE.

dred. It is otherwise without interest, and will probably lose some of the trade it now enjoys after this portion of the road is avoided by the Central Railroad.

The Mountain House stands on an elevation, above tide-water, of about twelve hundred feet. The ascent from this place to the summit of the mountain is nearly fourteen hundred feet—consequently, on reaching it, we will find ourselves in the region of clouds, upwards of twenty-six hundred feet above the Delaware River at Philadelphia!

Our course, therefore, is still onward and *upward*. Hitched to a little old rickety locomotive, of the extravagant days of Governor Ritner, —he, of whom it was sung, in Pennsylvania Dutch—

“ Der Joseph Ritner is der mon
As unser Staat rigeren kon ! ”

we are tugged, two or three miles, over a steep ascending grade, to the foot of the first inclined-plane. Here the cars are attached to an endless wire-rope, winding round large iron wheels, placed horizontally, at each end of the plane. When all is ready, a signal is given to the engineer at the head of the plane, who immediately sets the stationary steam-engine in motion, and the rope begins its accustomed travel. It is prevented from touching or dragging the ground by numerous little wooden wheels, which revolve rapidly whenever the rope falls low enough to touch them. The ascent is soon made, and the same process is repeated at each of the other planes. At first the novelty of the operation excites some interest, but this gradually wears off, and the slow progress in travelling produces a feeling of impatience. The scenery is sometimes very inspiring; but, for the most part, the Alleghany has little of striking effect. The ascent, too, is so gradual, and the distance to the summit so considerable, that the actual height is never fully realized. The summit of the mountain forms the boundary line between Cambria and Blair Counties, and the village on its top *ought* to be the best place in Pennsylvania, because it is unquestionably the nearest to heaven.

Making maple-sugar, in this region of country, is one of the characteristic employments of the people—though it is carried on to a much greater extent in the adjoining county of Somerset. The quantity of this sugar, raised in this State in 1850, as appears by the census, was two million two hundred and eighteen thousand, six hundred and forty-four pounds, from which it will be seen that it is by no means an inconsiderable item of our domestic products. Indeed, we have no doubt but that this amount, large as it seems, might readily be trebled and quadrupled with profit, were the matter reduced to the common basis of a regular and systematic business. Immense districts, otherwise unproductive, might be timbered with these sugar-bearing trees, and large sums annually realized from their productions without in the least depreciating the value of the trees for timber. If we are not greatly deceived, this sugar-maple business



BOILING MAPLE-SUGAR ON THE ALLEGHANY.

will ultimately become important—that is, it will enter the market in such quantity as to offer a determined competition to the products of the sugar-cane.

The sugar-maple is a beautiful tree, reaching the height of seventy or eighty feet, the body straight, for a long distance free from limbs, and three or four feet in diameter at the base. It grows in older climates, between latitude forty-two and forty-eight, and on the Alleghanies to their southern termination, extending westward beyond Lake Superior. The wood is nearly equal to hickory for fuel, and is used for building, for ships, and various manufactures. When tapped as the winter gives place to spring, a tree, in a few weeks, will produce five or six pailfuls of sap, which is sweet and pleasant as a drink, and when boiled down will make about half as many pounds of sugar. The manufacturer, selecting a spot central among his trees, erects a temporary shelter, suspends his kettles over a smart fire, and at the close of a day or two will have fifty or a hundred pounds of sugar, which is equal to the common West India sugar, and when refined equals the finest in flavor and in beauty. "When the sap has been boiled to a syrup and is turning to molasses, then to candy, and then graining into sugar, its flavor is delightful, especially when the candy is cooled on the snow." The person in the engraving is represented

as blowing the wax or candy to ascertain how far the boiling has advanced. Maple-sugar boiling is also a favorite amusement with the Yankees down in "Vermount." A correspondent of the *Boston Atlas*, writing from Burlington, in that State, gives us the following particulars, which are equally applicable to this quarter: "At this season, the spring, sugar orchards become places of much resort, especially for those who love the sweet things of life. In this village parties are frequently formed, to take a trip to some sugar orchard in an adjacent town, and there regale their palates with maple molasses. The maple-sugar manufactories are generally located in romantic spots—in some beautiful valley, or on some delightful hill-side, where the air is pure and invigorating, and the landscape views enchanting and picturesque. Vermont contains thousands of such delightful retreats; and at this season of the year, when the crystal waters of the brooks are released from their frozen bands, and come leaping down the mountain sides, waking the beautiful trout from his winter's sleep, and filling the valleys and groves with sweet music, it is pleasant to visit these sugar orchards, drink sap, lap maple molasses, and make love. Make love! Ah! thereby hangs a tale. Let the Vermont ladies beware; for in such places they may fall in love, while they would not dream of such a thing in their quiet homes. The delicious saccharine qualities of maple molasses, presented to the swelling lips of a beautiful lass by the hand of a smiling swain, has a wonderfully softening effect upon the head, and creates a pleasant dreamy sensation through all the nervous system, especially when it is powerfully aided by romantic woodland scenes, and the music of a thousand cascades. And young gentlemen, too, may need a word of caution on such occasions, and under the pressure of such peculiar circumstances. An able English writer said, many years ago, when human nature was just what it is now, that it was dangerous for a Benedict to select a wife in a ball-room, when her disposition was sweetened by the music of the violin. But what are the streaming notes of the fiddle, in sweetening the female heart, when compared with the luxury of maple molasses? But a word to the wise is sufficient; we will not follow out the comparison." Indeed, there are no more joyous seasons than these festive scenes that serve as occasions to bring together the "guide country folks and the lads and lasses," while the cool bracing air gives zest to the labor of preparing the delicious sweets.

A few miles from the summit, in descending the western slope of the mountain, we avoid the last inclined-plane, as well as the long level of the Portage road, and again strike that of the Central Railroad. The first object here that meets our attention is a singularly



ROCK CUTTING AND CURVATURE OF THE CONEMAUGH.

wild scene on the Conemaugh. A steep and narrow ridge of rocks, projecting from the western slope of the valley, drives the little stream nearly a mile out of its course, where it suddenly wheels round and passes along within a few feet of the place of deviation, on the opposite side of the ridge. The above figure exhibits a view of the scene on the eastern side, and the passage of the railroad through the ridge, whose position to the river is somewhat like the blade of a sword—the massive handle representing the mountain, while the projecting blade shows the nature of the rocky ridge around which the stream is forced to travel. In re-appearing on the western side of the ridge, the river has descended some twenty feet or more, and is crossed by a stone viaduct. This is one of the finest specimens of massive architecture to be found in this country—consisting of a single arch, with a span of eighty feet, and nearly seventy-five feet above the water of the stream. While it can scarcely be surpassed in the neatness and symmetrical proportions of the design, it is as durable as the eternal foundation upon which it rests. The Conemaugh, passing through the



THE BIG VIADUCT, AND THE SHARP RIDGE ON THE WESTERN SIDE.

Big Viaduct in a north-eastern course, soon winds round again, and descends towards the west. A short distance from the viaduct, therefore, it again crosses the railroad, or rather, the railroad crosses it, with a splendid iron and wooden bridge, having an elevation of seventy-three feet. The bridge is approached through a cut over one hundred feet



BRIDGE BELOW THE VIADUCT.

in depth—the elevation thus penetrated consisting of a drift-shale rock. This excavation is the deepest to be found on the road—probably the deepest of any other railroad in the country. The scene here, like the others just mentioned, is perfectly wild—deeply, gloriously, sublimely wild! Stones are scattered along the mountain sides in dire disorder, among which shoot up tall and stately pine trees, with an occasional oak and maple. Below rushes the torrent as

if mad with the opposing obstacles which have lately impeded its course, and as the fruits of its savage impetuosity, large rounded stones are scattered along its banks, which have been borne down from the stony ridges obtruding in its bed.

We are now entering—nay, we are already within, the great Alleghany bituminous coal region—that vast and extraordinary assemblage of vegetable matter which, in an economical and moral view is worth fifty Californias, were each California a lump of massive gold! This, with the adjacent fields east and west of the Missouri River, contains at least twice the amount of workable coal of all the rest of the world *combined*; and lying, as they all do, within the valleys drained by the Mississippi and its numerous tributaries, their future value in dollars and cents is perfectly incalculable—entirely beyond the scope of human computation. The whole country, from the Gulf of Mexico to the Gulf of the St. Lawrence and Newfoundland, at one period of the earth's history—with here and there a probable barren spot—comprised *one vast coal region*, the most extensive remaining portion being the field we are now in, extending over a large portion of the area drained by the Ohio River and its tributaries. Detached portions of this once unbroken coal region are scattered along the Rio Grande and Chihuahua Rivers in Mexico, as well as their branches rising in the interior of Texas; other beds are found, separated only by a few miles, along the Red and Arkansas Rivers, flowing into the Mississippi; while further north lies the great Missouri coal field, separated from that of the great Illinois field only by the Missouri and Mississippi Rivers, which pass through both. The south-eastern point of this field is pierced by the Ohio River, and it approaches within some fifty miles of the great Alleghany field, which, lying in a north and south position, runs parallel, with the Atlantic coast, nearly seven hundred and fifty miles, at an average distance from it, in a straight line, of about two hundred miles. Thus it originally traversed portions of the State of New York and the New England States, where deposits of anthracite are still found; but the encroachments of the sea, in its northern course, have overflowed the beds, and left those of Nova Scotia and Newfoundland exposed, literally emerging, as they do, from the watery depths encircling them.

The single State of Pennsylvania has a greater area of coal than all Great Britain, Ireland, Scotland, Wales, Spain, France and Belgium, *united!* It is only exceeded by the British provinces of New Bruns-

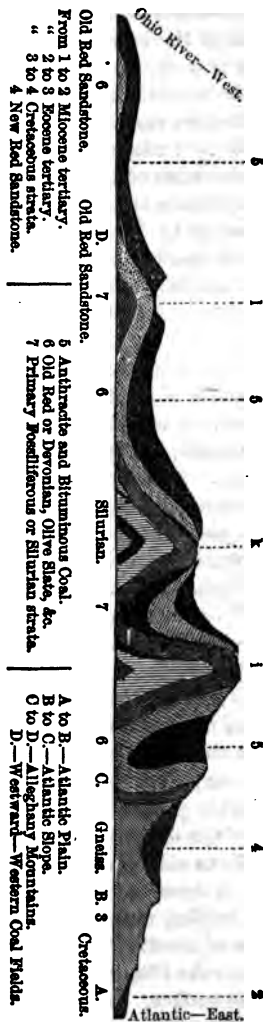
wick, Nova Scotia and Newfoundland, which, as before stated, are but continuations of our own great region, and which contain a net area of some eighteen thousand square miles—that of Pennsylvania being not quite sixteen thousand square miles, or one-third of its entire physical area. The coal strata in the British provinces are not as productive as our own—the seams are “faulty,” and the coal full of earthly impurities. Large as this body of coal appears, some other States, (with a larger territory, however,) have a still greater amount; or, rather, a greater amount of coal *area*—for in regard to *quality*, Pennsylvania, from the *inclined dip of her anthracite coal veins*, still has more coal than those States where the veins lie in a horizontal position, no matter what their *area* of coal land. The following table exhibits the quality of coal land of each State where it is found:

States.	Area of the States.	Coal areas.
	SQUARE MILES.	SQ. MILES.
1. Alabama,	50,875	3,400
2. Georgia,	58,200	150
3. Tennessee,	44,720	4,800
4. Kentucky,	39,015	13,500
5. Virginia,	64,000	21,195
6. Maryland,	10,829	550
7. Ohio,	38,850	11,900
8. Indiana,	34,800	7,700
9. Illinois,	59,180	44,000
10. Pennsylvania,	43,960	15,687
11. Michigan,	60,520	5,000
12. Missouri,	60,384	6,000
	565,283	133,382

Reduced to acres, we have, in the twelve States above mentioned alone, something like three hundred and sixty-one millions, eight hundred and eighty-one thousand one hundred and fifty-one acres of coal land! Of this Pennsylvania has over twenty-eight millions two hundred thousand acres, embracing (which the other States do not,) anthracite, bituminous, and semi-bituminous coal. The greatest length of the Alleghany coal-field is seven hundred and fifty-six miles; its greatest breadth one hundred and seventy-three, and its average breadth about eighty-five miles. There are some thirty or forty points where coal is regularly mined, the average thickness of the veins worked being about ten feet—some of them being twenty-two, while those along the Conemaugh and the Portage Railroad, near

us, are from ten to fifteen feet thick. At Frostburg there is a vein twenty-six feet in thickness. The annual amount of coal shipped to the eastward, by way of the Juniata and the north branch of the Susquehanna, will not exceed sixty thousand tons. Of course the greatest amount raised is consumed in and around Pittsburgh, and sent down the Ohio River, the actual amount of which in tons we can make no estimate, there being no record or statistics by which it can be ascertained satisfactorily. The annual consumption, at a single estimate, (taking in view all the outlets, including that to Lake Erie,) we should compute at one *million tons*—most probably more; certainly not less. The anthracite coal region we have discussed at sufficient length in *Off-hand Sketches, Part II.*, another part of this work, to which we beg leave to refer our readers. Our remarks upon that region are illustrated with cuts, nearly all of which would be applicable to this region, there being little difference between the two districts except in the process of mining, and a material dissimilarity in the structure and position of the strata.

STRUCTURE AND ORIGIN OF THE ALLEGHANIES.—The within geological section (extending from near the Atlantic some four hundred



miles westward) exhibits the general order of structure, and relative elevation of the wonderful region we are traversing. Starting in the east, we first cross a low plain, extending to the letter A, which was called the alluvial plain by the first geographers. A portion of this plain has been omitted in the engraving, for the want of room. It is occupied by tertiary and cretaceous strata nearly horizontal, and in general contains no hard and solid rocks, and is usually not more than from fifty to one hundred feet high, at any point along the coast, from New Jersey to Virginia. In these States this zone is not many leagues in breadth, but it acquires a breadth of one hundred and one hundred and fifty miles in the southern States, and a height of several hundred feet towards its western limits. This is called the *Atlantic plain*.

The next belt, running from B to C, consists of granite rocks, chiefly gneiss and mica-schist, covered occasionally with *unconformable* red sandstone (marked figure 4). It is from twenty-five to thirty miles in width, and traversed by the Conewago Hills, or South Mountain range. This is called the *Atlantic slope*, because it brings us to the first mountain range belonging to the Alleghany series, the Kittatinny; and contains itself numerous elevations, cut up by streams and otherwise much worn away, ranging in height from one to three hundred feet. On either side of this sandstone district are extensive layers of limestone, which we have elsewhere spoken of at length.

From G to D we have all the mountain elevation constituting the great Alleghanies. Leaving the new red sandstone formation, (which is distinguished from the older formation by its occupying a horizontal position, or rather by its not laying in regular order with the older strata) we cross a narrow projecting belt of the **primary** fossiliferous group, constituting what is called the Silurian **system** of rocks. This group of strata, it will be seen, occupies the **most** elevated position of the mountain region. The next formation above it is that of the old red sandstone, which, it will be seen, forms the bed of the coal throughout the whole extent of country, whenever it appears, extending westward from D some five hundred miles, with the exception of the district previously referred to, separating the Alleghany from the Illinois coal-field, and where the Silurian Rocks again rise to the surface. But from D westward the coal invariably lies in a horizontal or flat position, with a few local exceptions, where it has been raised to a slight elevation, not exceeding one hundred feet in any case.

A few days' observation of the identity of the fossil plants, and the relative position of the anthracite, satisfied me that it was of the same age as the bituminous coal which I had seen at Blossberg. This opinion was, I believe, first promulgated by Mr. Featherstonehaugh, in 1831, at a time when many geologists were disposed to assign a higher antiquity to the anthracite than to the bituminous coal measures of the United States. The recent surveys have now established this fact beyond all question, and hence it becomes a subject of great interest to inquire how these two kinds of coal, originating, as they did, from precisely the same species of plants, and formed at the same period, should have become so very different in their chemical composition. In the first place, I may mention that the anthracite coal measures, occurring in the eastern or most disturbed part of the Alleghany chain, are fragments or outlayers of the great continuous coal-field of Pennsylvania, Virginia, and Ohio, which occurs about forty miles to the westward. This coal-field is remarkable for its area, for it is described as extending continuously from north-east to south-west for a distance of seven hundred and fifty miles, its greatest width being about one hundred and eighty miles—extending from the northern border of Pennsylvania as far south as near Huntsville, in Alabama. It must have measured originally, before reduced by denudation, at least nine hundred miles in length, and in some places more than two hundred miles in breadth. By reference to the section it will be seen that the strata of coal are horizontal to the westward of the mountain region, and become more and more inclined and folded as we proceed eastward, from D to C. Now it is invariably found that the coal is most *bituminous* towards its western limit, where it *remains* level and unbroken, and that it becomes progressively debilitated as we travel south-eastward towards the more bent and distorted rocks. Thus, on the Ohio, the proportion of hydrogen, oxygen, and other volatile matters, ranges from forty to fifty per cent. Eastward of this line, on the Monongahela, it still approaches forty per cent., where the strata begin to experience some gentle flexures. On entering the Alleghany Mountains, where the distinct anticlinal axes begin to show themselves, but before the dislocations are considerable, the volatile matter is generally in the proportion of eighteen or twenty per cent. At length, when we arrive beyond it, associated with the boldest flexures of the Appalachian chain, where the strata have been actually turned over, as near Pottsville, we find the coal to

contain only from six to twelve per cent. of bitumen, thus becoming a *genuine anthracite*.—*Trans. of Ass. of Amer. Geol.*, p. 470.

It appears from the researches of Liebig and other eminent chemists, that when wood and vegetable matter are buried in the earth, exposed to moisture, and partially or entirely excluded from the air, they decompose slowly and evolve carbonic acid gas, thus parting with a portion of their original oxygen. By this means they become gradually converted into lignite or wood-coal, which contains a larger proportion of hydrogen than wood does. A continuance of decomposition changes this lignite into common or bituminous coal, chiefly by the discharge of carburetted hydrogen, or the gas by which we illumine our streets and houses. According to Bischoff, the inflammable gases which are always escaping from mineral coal, and are so often the cause of fatal accidents in mines, always contain carbonic acid, carburetted hydrogen, nitrogen, and olifiant gas. The disengagement of all these gradually transforms ordinary or bituminous coal into *anthracite*, to which the various names of splint coal, glance coal, calm, and many others have been given.

We have thus seen that, in the Alleghany coal-field, there is an intimate connection between the *extent* to which the coal has parted with its gaseous contents, and the *amount of disturbance* which the strata have undergone. The coincidence of these phenomena may be attributed partly to the greater facility afforded for the escape of volatile matter, where the fracturing of the rocks had produced an infinite number of cracks and crevices, and also to the heat of the gases and water penetrating these cracks, when the great movements took place, which have rent and folded the mountain strata. It is well known that, at the present period, thermal waters and hot vapors burst out from the earth during earthquakes, and these would not fail to promote the disengagement of volatile matter from the carboniferous rocks.

To the elaborate and faithful surveys of Prof. Rogers, and the late R. C. Taylor, we owe the discovery of the clue to the general law of structure prevailing throughout this important range of mountains; which, however simple it may appear when once made out and clearly explained, might long have been overlooked, amidst so great a mass of complicated details. It appears that the bending and fracture of the beds is greatest on the south-eastern or Atlantic side of the chain, and the strata become less and less disturbed as we go westward,

until at length they regain their original or horizontal position. By reference to the section, it will be seen that on the eastern side, or on the ridges and troughs nearest the Atlantic, the south-eastern dips predominate, in consequence of the beds having been folded back upon themselves, as in *i*, those on the north-western side of the arch having been inverted. The next set of arches (such as *k*) are more open, each having its western side steepest; the next (*l*) opens out still more widely, and so it continues on until the strata become low and level. In nature, or in a true section, the number of bendings or parallel folds is so much greater, that they could not be expressed in a diagram without confusion. It is also clear that large quantities of rock have been removed by aqueous action or denudation, or will appear by the cuts or fissures at *l*, *k*, and *i*, as well as hundreds of other places which could not be indicated in the section.

The movements which imparted so uniform an order of arrangement to this vast system of rocks, must have been contemporaneous, or belonging to one and the same series, depending on some common cause. Their geological date is unusually well defined. We may declare them to have taken place *after* the deposition of the carboniferous strata (*5*), and *before* the formation of the red sandstone, figure 4. The greatest disturbing and denuding forces have evidently been exerted on the south-eastern side of the chain, and it is here that *igneous* or *plutonic rocks* are observed to have invaded the strata, forming dykes, some of which run for miles in lines parallel to the main direction of the mountains, or N. N. East and S. S. West.

According to the theory of Professor Rogers, the wave-like flexures, above alluded to, are explained by supposing the strata, when in a plastic state, to have rested on a widely extended surface of fluid lava, and elastic vapors and gases. The billowy movement of this subterranean sea of melted matter imparted its undulations to the elastic overlying crust, which was enabled to retain the new shapes thus given to it by the consolidation of the liquid matter injected into fissures.*

For my own part, I cannot imagine any real connection between the great parallel undulations of the rocks and the real waves of a subjacent ocean of liquid matter, on which the bent and broken crust

* Trans. of Ass. of Amer. Geology, 1840—2, p. 515.

may once have rested. That there were great lakes, or seas of lava, retained by volcanic heat for ages in a liquid state, beneath the Alleghanies, is highly probable, for the simultaneous eruptions of distant vents in the Andes leave no doubt of the wide subterranean areas permanently occupied by sheets of fluid lava in our own times. It is also consistent with what we know of the laws governing volcanic action to assume that the force operated in a linear direction, for we see trains of volcanic vents breaking out for hundreds of miles along a straight line, and we behold long parallel fissures, often filled with trap or consolidated lava, holding a straight course for great distances through rocks of all ages. The causes of this peculiar mode of development are as yet obscure and unexplained; but the existence of long narrow ranges of mountains, and of great faults and vertical shifts in the strata, prolonged for great distances in certain directions, may all be results of the same kind of action. It also accords well with established facts, to assume that the solid crust overlying a region where the subterranean heat is increasing in intensity, becomes gradually upheaved, fractured, and distended—the lower part of the newly opened fissures becoming filled with fused matter, which soon consolidates and chrySTALLIZES. These uplifting movements may be propagated along narrow belts, placed side by side, and may have been in progress simultaneously, or in succession, in one narrow zone after another.

When the expansive force has been locally in operation for a long period, in a given district, there is a tendency in the subterranean heat to diminish—the volcanic energy is spent, and its position is transferred to some new region. Subsidence then begins, in consequence of the cooling and shrinking of subterranean seas of lava and gaseous matter; and the solid strata collapse in obedience to gravity. If this contraction takes place along narrow and parallel zones of country, the incumbent flexible strata would be forced, in proportion as they were let down, to pack themselves into a smaller space, as they conformed to the circumference of a smaller arc. The manner in which undulations may be gradually produced in pliant strata, by subsidence, is illustrated on a small scale by the *creeps* in coal-mines; there both the overlying and underlying shales and clays sink down from the ceiling, or rise up from the floor, and fill the galleries which have been left vacant by the abstraction of the fuel. In like manner the failure of support arising from subterranean causes may enable

the force of gravity, though originally exerted vertically, to bend and squeeze the rocks as if they had been subjected to lateral pressure.

“ Earthquakes have raised to heaven the humble vale,
And gulfs the mountain's mighty mass entombed,
And where the Atlantic rolls, wide continents have bloomed.”

In applying these lines to the physical revolutions of the territory at present under consideration, we must remember that the continent which bloomed to the eastward, or where the Atlantic now rolls its waves, was anterior to the origin of the carboniferous strata which were derived from its ruins; whereas the elevation and subsidence supposed to have given rise to the Appalachian ridges was subsequent to the deposition of the coal-measures. But all these great movements of oscillation were again distinct from the last upheaval which brought up the whole region above the level of the sea, laying dry the horizontal new red sandstone, (No. 4.) as well as a great part of, if not all, the Appalachian chain.

The largest amount of denudation is found, as might have been expected, on the south-eastern side of the chain, where the force of expansion and contraction, of elevation and subsidence, has been greatest. The first set of denuding operations may have taken place when the strata, including the carboniferous, were first raised above the sea; a second, when they sank again; a third, when the red sandstone (No. 4.), after it had been thrown down on the truncated edges of the older strata, participated in the waste. The great extent of solid materials thus removed, must add, in no small degree, to the difficulty of restoring in imagination the successive changes which have occurred, and of recounting in a satisfactory manner for the origin of this mountain chain.*

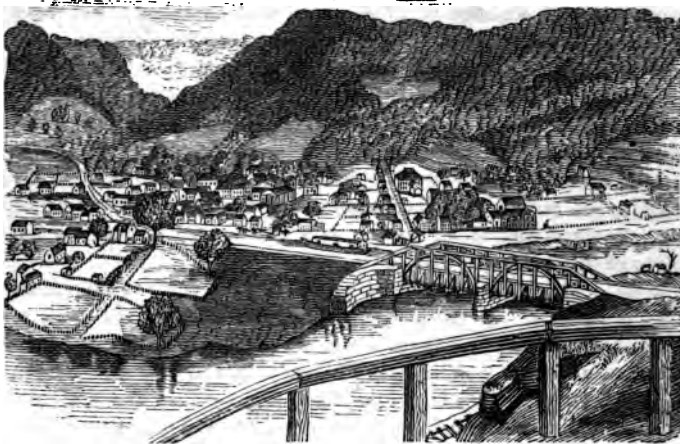
Hollo! Here's CONEMAUGH STATION! We are down the mountain—we are west of the Alleghany, to-be-sure! Ah! we are down to twelve hundred and twenty-six feet again *above* tide-water; two hundred and seventy-six miles from Philadelphia, and only eighty-seven from Pittsburg. Here is a neat brick engine-house and machine-shop for the accommodation of the iron nags who tug us over the western divisions of the road, and a characteristic water-station to

* Abridged from Sir Charles Lyell's *Travels in America*.



CONEMAUGH STATION.

refresh them when they are dry. Running along the northwestern bank of the Conemaugh, we reach JOHNSTOWN, two miles below. At



JOHNSTOWN.

this place the western division of the Pennsylvania canal commences, and the miserable Portage Railroad, with its short splintery rails and

curvatures, its stationary steam-engines and abominable inclined plains, terminates. The traveller, who has crossed the mountain over it, will not regret to leave it, but will thank the stars that a better road will soon supersede it. The friendly Conemaugh, as it passes this place, shakes hands with the Stony Creek, and the two proceed together, in a nearly northern course, around Laurel hill, where they strike due west. Johnstown lies on a level flat, surrounded by steep hills. It is pleasantly situated, but is without the least interior attraction. The buildings are small and without ornament, and the population, consisting of about two thousand, embraces a conglomerate of character, of which the most part follow the "raging canawl," or business appertaining to the trade of which it is the distributor. The original settlers of the county were Welsh, Scotch, and Irish, and the latter appear to have the "megority" here.

EBENSBURG, a few miles distant, is the seat of justice. It is situated on one of the high ridges of the Alleghany, commanding a fine view of the surrounding country. The *Mountaineer*, published in this borough in 1840, contained the following obituary notice of one of the most remarkable men that ever resided in this part of the country:

"Died, on the 6th instant, at Loretto, the Rev. Demetrius Augustine Gallitzin, who for forty-two years exercised pastoral functions in Cambria County. The venerable deceased was born in 1770, at Munster, in Germany. His father, Prince de Gallitzin, ranked among the highest nobility in Russia. His mother was the daughter of Field Marshal General de Schmeltan, a celebrated officer under Frederick the Great. Her brother fell at the battle of Jena. The deceased held a high commission in the Russian army from his infancy. Europe in the early part of his life was desolated by war—the French revolution burst like a volcano upon that convulsed continent; it offered no facilities or attractions for travel, and it was determined that the young Prince de Gallitzin should visit America. He landed in Baltimore in August, 1782, in company with Rev. Mr. Brosius. By a train of circumstances, in which the hand of Providence was strikingly visible, his mind was directed to the ecclesiastical state, and he renounced forever his brilliant prospects. Already endowed with a splendid education, he was the more prepared to pursue his ecclesiastical studies, under the venerable Bishop Carroll, at Baltimore, with facility and success. Having completed his theological course, he spent some time on the mission in Maryland.

"In the year 1789, he directed his course to the Alleghany mountain, and found that portion of it which now constitutes Cambria County a perfect wilderness, almost without inhabitants or habitations. After incredible labor and privations, and expending a princely fortune, he succeeded in making 'the wilderness blossom as the rose.' His untiring zeal has collected about Loretto, his late residence, a Catholic population of three or four thousand. He not only extended the church by his missionary toils, but also illustrated and defended the truth by several highly useful publications. His 'Defence of Catholic principles' has gained merited celebrity both here and in Europe.

"In this extraordinary man we have not only to admire his renunciation of the brightest hopes and prospects, and his indefatigable zeal, but something greater and rarer—*his wonderful humility*. No one could ever learn from him or his mode of life what he had been, or what he exchanged for privation and poverty.

"To intimate to him that you were aware of his condition, would be sure to pain and displease him. He who might have revelled in the princely halls of his ancestors was content to spend thirty years in a rude log-cabin, almost denying himself the common comforts of life, that he might be able to clothe the naked members of Jesus Christ, the poor and distressed. Few have left behind them such examples of charity and benevolence. On the head of no one have been invoked so many blessings from the mouths of widows and orphans. It may be literally said of him, 'if his heart had been made of gold he would have disposed of it all in charity to the poor.'"

Cambria County contains, what probably no other county in Pennsylvania will *boast, a deserted village*. It is called *Beulah*, and was laid out with the prospect of becoming the seat of justice; but this having subsequently been established at Ebensburg, four or five miles distant, the entire village soon became depopulated, and is now in ruins.

Following the course of the canal, after leaving Johnstown, the railroad runs parallel with it for several miles. We pass the unimportant stations of MAGILL'S FURNACE, NINEVEH and NEW FLORENCE, and pause a moment for breath at LOCKPORT. The canal here comes over to our side of the river, crossing the stream in one of the finest stone aqueducts we have yet seen. It does not leak a drop, and the little clusters of creeping weeds and water-plants holding on to its sides give it quite a romantic and poetic appearance.

We are now in the great county of Westmoreland—great alike in its agricultural fertility, its numerous streams, and its extraordinary mineral resources. The Conemaugh separates it from Indiana and Armstrong on the north-east, and Laurel Hill from Cambria and Somerset on the east and north-east—Fayette lying south and Washington and Alleghany Counties west of it. Like Huntingdon, it is full of small streams, which, for the most part, have their rise in its midst. Between Laurel Hill and Chesnut Ridge is the celebrated Ligonier Valley, remarkable for the extent of its timber as well as the fertility of the soil. This beautiful valley has a north-east and south-west course, and consists of a very long but narrow belt of land lying between the parallel elevations mentioned. It commences in Virginia, traverses the eastern portion of Fayette and Westmoreland, and finally spreads out into the adjoining county of Indiana. During the revolution, and for many years prior to it, this extensive valley was the scene of many interesting and stirring events, some of which we may



PACK-SADDLE ROCKS IN CHESNUT RIDGE GAP.

probably allude to hereafter. For the present we must keep an eye on the Conemaugh, which is very busy in receiving the little streams

pouring in upon it, and sending them along, under its auspices, to the Kiskiminetas, one of the principal forwarding agents of the Alleghany. The Kiskiminetas (which means, kiss-me-in-a-minut, if we are not wrong!) is but a continuation of the Conemaugh; but as this stream is *united* with the former, of course the propriety of the change of name is not to be questioned. The Kissme—ah, ha! This is what we have been looking out for! “’Ere,” as Captain Cuttle would remark, after making a close “hobserwation,”—“’ere is a scene as is a scene!” Chesnut Ridge, as it is the last lofty and prominent elevation properly belonging to the Appalachian chain, determined to end the mountain series with a flourish of trumpets—a *coup d’état*. The Conemaugh, too—grown amazingly since we first saw him, a mere untamed urchin, wandering down the Alleghany—but a powerful hand in scooping out the gap, which is at once high, bold, precipitous, and rugged. Along this frightful bluff runs the railroad, elevated nearly a hundred feet above the glassy river; and the idea of danger—a mere passing shadow—only gives spice to the grandeur of the scene. Winding hurriedly around a curvature, we catch a glimpse of the overhanging pack-saddle, so called from its resemblance to that time-honored travelling appendage. Travelling three or four miles thus, we suddenly leave the Conemaugh, and rein in our fiery steed at the branch of the road leading to BLAIRSVILLE, six miles distant. The canal also goes that way, and passes through some magnificent scenery on the route. A few miles below Blairsville, it passes through a tunnel nine hundred feet in length, and emerging from it, is carried over the Conemaugh on a stupendous stone aqueduct, amidst the wildest scenery imaginable.

On leaving the Conemaugh, and winding around the gap of Chesnut ridge, the railroad has nothing more to do with the Alleghany mountain, and accordingly directs its course due west, very nearly through the centre of Westmoreland County. We pass three or four unimportant stations, and find ourselves near the Loyalhanna River, emptying into the Kiskiminetas, which, in turn, runs into the Alleghany, then into the Ohio at Pittsburg, and so on. Latrobe is three hundred and twenty miles from Philadelphia, two hundred and seven from Harrisburg, and forty-three from Pittsburg. Its elevation above tide water is one thousand and four feet. This place has sprung up within the last year or two, and bids fair for future importance. A railroad from it to Uniontown, via Mount Pleasant, and thence

through Kanawha to the Big Sandy, in Virginia, where it would connect some other railway routes, is projected. In this age of steam and railroading, it is not improbable that this contemplated road may ultimately be undertaken. A large portion of the stock, we understand, is already subscribed for. The line would cross the north-western railroad leading to Parkersburg, in some point in Harrison County, and the main line of the Baltimore and Ohio Railroad, leading to Wheeling, at some point in the county of Taylor or Marion, in Virginia. The people of that section of Virginia, (which is exceedingly rich in its mineral resources,) would thus be brought within several hours ride of Wheeling, Baltimore, and Philadelphia, while they are now comparatively shut out from each of these places.



LATROBE.

The great interior region of Westmoreland comprises the rich table lands of the Alleghany—the country being sufficiently rolling to adapt it admirably for all the purposes of agriculture, including that of sheep husbandry, which is extensively pursued in the adjoining county of Washington, and others adjacent to the Monongahela, in this State and Virginia. East of Latrobe, in the adjacent counties of Indiana, Jefferson, Armstrong, and Clarion, is one of the finest and most extensive lumber regions in the State, to penetrate which it is sometimes proposed to extend the Blairsville branch of the railroad, at least so far as Indiana, the seat of justice of that county. A portion of all these counties is drained by the Clarion River, emptying into the Alleghany; a portion of Armstrong and Indiana by the

Crooked Creek and its forks; and the remaining portion of both, with Westmoreland on the west, by the Conemaugh, the Kiskiminetas, and the Loyalhanna, emptying into the former. The country is thus well supplied with streams, which are sufficiently large, when swollen in the spring by the melting snow, to bear the lumber to the Alleghany, where it is formed into rafts, and floated down the Ohio River. All the towns and cities on this noble river, (including Pittsburg, Cincinnati, and Louisville,) have been built almost entirely from the descending lumber of this great region; while the Monongahela has furnished the oaks and heavier and finer-fibred timber for purposes of steamboat, ship and bridge building, as well as cabinet-ware.

The lumbermen are essentially original characters. A more devil-may-care set of fellows never handled an axe or swung an oar; good-natured, robust, and hard-working, they have an inexhaustible fund of humor and forest-adventure, which does much to smooth down their exterior roughness. In the fall of the year they repair to the depths of the forest, and commence the preliminaries of the winter campaign.

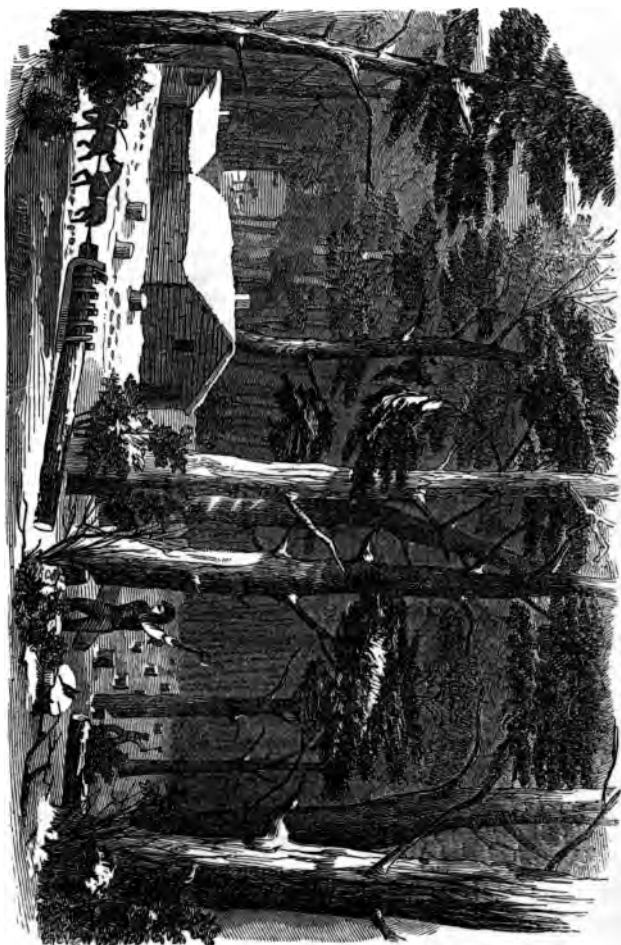
Wide around their woodland quarters
Sad-voiced autumn grieves;
Thickly down the swelling waters
Float his fallen leaves;
Through the tall and naked timber,
Column-like and old,
Gleam the sunsets of November
With their skies of gold.

As soon as the timber district to be cleared is fixed upon, the woodmen commence operations, and one after the other fall the stately inhabitants of the forest—leaving behind, as monuments of their past glory, their bright stumps gleaming through the dismembered branches. The ox-teams are busy tugging off the saw-logs, and the saw-mill hard by tears savagely through their woody fibres.

Be it starlight—be it moonlight*
In these vales below,
When the earliest beams of sunlight
Streaks the mountain's snow,

* John G. Whittier.

PELLING TIMBER—WINTER.



Crisps the hoar frost keen and early
To our hurrying feet,
And the forest echoes clearly
All our blows repeat.
* * * * *
Make we here our camp of winter,
And through sleet and snow,
Pitch-knot and beechen splinter,
On our hearth shall glow ;
Here, with mirth to lighten duty,
We shall lack alone,
Woman, with her smile of beauty,
And her gentle tone.
But her hearth is brighter burning
For our work to-day,
And her welcome at returning
Shall our loss repay.
Strike, then, comrades ! Trade is waiting
On our rugged toil,
For ships are waiting for the freighting
Of our woodland spoil !
Cheerily on the axe of labor
Let the sunbeam dance,
Better than the flash of sabre,
Or the gleam of lance !
Strike ! With every blow is given
Freer sun and sky,
And the long-hid earth to heaven
Looks with wondering eye.
Loud behind us grow the murmurs
Of the age to come !
Clang of smiths and tread of farmers
Bearing harvest-home !
Here her virgin lap with treasures
Shall the green earth fill—
Waving wheat and golden maize-ears
Crown each beechen hill !

In the spring, when the snows melt, the sawed lumber is drifted down the mountain streams to the Alleghany, where long rafts are formed, and then piloted down the river. Each raft contains from four to eight hands, who lodge in a little board cabin erected in the centre of it. Here they live in merry social glee, consuming the

night in song and revelry, interspersed with anecdotes and tales of their forest life—of “hair breadth ‘scapes” from wolves and bears—of feats of strength and agility—of travels and fortune—of places, men, and women!

When the white frost gilds the valleys, the cold congeals the flood;
When many men have naught to do to earn their families bread;
When the swollen streams are frozen and the hills are clad in snow,
Oh! we'll range the wild woods o'er, and a-lumbering we'll go!
And a-lumbering we'll go, so a-lumbering we'll go—
Oh, we'll range the wild woods over, and a-lumbering we'll go!

When you pass through the proud city, and pity all you meet,
To hear their teeth a-chattering as they hurry through the street—
In the frost-proof flannel we're encased from top down to the toe,
While we range the wild woods o'er, as a-lumbering we go.
And a-lumbering we'll go, so a-lumbering we'll go,
Oh, we'll range the wild wood o'er, while a-lumbering we go!

You may boast of your gay parties, your pleasures, and your plays,
And pity us poor lumbermen while dashing in your sleighs;
We want no better pastime than to chase the buck and doe,
As we range the wild woods over, and a-lumbering we go!
And a-lumbering will go, so a-lumbering we'll go,
Oh! we'll range the wild woods over while a-lumbering we go!

The music of our burnished axe shall make the woods resound,
And many a lofty ancient pine will tumble to the ground;
At night, round our good camp-fire, we'll sing while rude winds blow;
Oh! we'll range the wild woods over while a-lumbering we go!
So a-lumbering we'll go, and a-lumbering we'll go,
Oh! we'll range the wild woods over, and a-lumbering we'll go!

When winter's snows are melted, and the ice-bound streams are free,
We'll run our rafts to market, then haste our friends to see;
How kindly true hearts welcome us—our wives and children too—
We will spend with these the summer, and again a-lumbering go!
And a-lumbering we'll go, and a-lumbering we'll go—
We'll spend with these the summer, and again a-lumbering go!

When our forest days are ended, and we cease from winter toils,
And each through the summer warm will till the virgin soil—
Enough to eat, and drink, and wear—content through life to go—
Then we'll sing our adventures o'er, and no more a-lumbering go!
And no more a-lumbering go, no more a-lumbering go—
Oh! we'll tell our adventures o'er, but no more a-lumbering go!

Pennsylvania has long been one of the most productive lumber States in the Union, and while it is true that her splendid forests are annually disappearing or growing smaller, yet she can never become entirely destitute of this necessary article. The extensive use of coal, if nothing else, will materially contribute to avert this evil. As the pines disappear, they are succeeded by oaks, equally valuable and necessary; while, again, the oaks are generally succeeded by pines. There would seem to be a law of succession in our forests, as well as in our grains—one crop of vegetable matter, drawing from the earth certain of its constituent elements, prepares it for another growth, which draws some other particular substance from it, and in turn deposits that which was previously extracted. This natural law, backed with the obvious *interest* of man, will always secure us large regions of timber, in those localities where the situation and *quality* of the soil are unfavorable to profitable culture.

THE LUMBER TRADE OF THE SUSQUEHANNA.—The principal lumber points of the Susquehanna River are Harrisburg, Middletown, Marietta, Columbia and Wrightsville, in Pennsylvania, and Port Deposit, in Maryland. About two million feet of the manufactured article, on an average, pass down the Susquehanna to these points every year, besides a large quantity which comes via the canals. Of this quantity it is estimated that about seventy million feet will arrive at Baltimore during the current year. It is not easy to get at the exact amount of business done in this rapidly increasing article of trade, in consequence of the imperfect data required by law to be kept, but it is generally conceded that the receipts of the year, ending on the 20th of April last, reached very nearly two hundred and fifty million feet, which is but little more than one-half the total number of feet which arrived at Albany, New York, (one of the greatest lumber markets in the United States,) during the year 1851, which amounted to not less than four hundred and sixty million feet, a large portion of which, however, came from Canada, whilst all that is brought down the Susquehanna is from Southern New York and Pennsylvania.

At Harrisburg the lumber is purchased to supply that city and the adjacent country, embracing the Cumberland Valley. A large portion is also purchased at the other points mentioned. The towns of Columbia and Wrightsville, opposite, are depots for purchasing and piling lumber, to season for the Baltimore and Philadelphia markets, as well as for the supply of all the manufacturing towns along the

lines of railroads thence to both cities; whilst Port Deposit, being at the head of tide-water, affords facilities for shipping to all the markets southward, as well as those on the Delaware; and many buyers and manufacturers meeting here, a large quantity of lumber consequently changes hands at this point. The following is an approximation to the quantity *sold* in each market which we have enumerated:—Harrisburg, five million feet; Middletown, twenty-five million feet; Marietta, ten million feet; Columbia, fifty million feet; Wrightsville, ten million feet; Port Deposit, fifty million feet—total, one hundred and fifty million feet. Besides which, fifty million feet are shipped from Columbia and Port Deposit for Baltimore and Philadelphia. All this amount is exclusive of an average of twelve hundred rafts of square timber, the greater part of which goes to Philadelphia and New York.

We have thus briefly stated the comparative importance of the principal lumber points on the Susquehanna, from whose business some millions of dollars change hands yearly. But it is limited in extent, compared to what it promises to be in a very few years. Ten years ago the lumber trade of Baltimore was hardly worthy of mention, whilst at this period something like one million of dollars worth is sold in this market, and the trade is only in its infancy. Improvements are continually going forward in the timber regions for getting that article to the mills to be manufactured, and vast tracts of country, now abounding in a wild primeval growth of timber, must, ere long, yield to the stroke of the woodman's axe and the magic influence of the lightning saw, to be sent down the "big stream," to the markets of consumption, and planted again in smiling towns and villages, not in the rude fashion of native wildness, but in the improved shape of thousands of human tenements.

This quarter of the State is scarcely less remarkable for its coal, iron, and lumber, than for its excellent *salt springs*. The saline properties of the water, underlying the upper stratum of the soil, were noticed at an early period; but no efforts were made to extract the salt until 1813, at which time, owing to the war, it became exceedingly scarce and correspondingly high in price. The water, in many places along the Kiskiminetas and the Alleghany, oozed out of the ground, and those spots were much frequented by deer, who would stand around them licking up the water with great satisfaction. This fact finally led to experiments, which have since resulted in extensive

mining operations. The water is pumped up, in immense quantities, generally by means of small steam-engines. The water thus raised is boiled until it attains a consistency approaching chrystallization; after which it is transferred to cisterns, in which the sediment is deposited, and thence, purified, it is put into large kettles, in which it soon becomes chrystallized without further trouble. The process of chrystallization is both interesting and curious. Spear after spear, of the most delicate structure and fantastic shape, bounces into existence as the water is absorbed, and soon the whole kettle appears white with the salt. Thirty gallons of water are usually evaporated for every bushel of salt. In all these works, coal, of course, constitutes the sole fuel. The pumps, we should add, are sunk to various depths, from three to eight hundred feet.



GREENSBURG.

GREENSBURG, laid out in 1783, was named in honor of Gen. Greene, of the Revolutionary War. It is the seat of justice of Westmoreland County, and contains a population of about twelve hundred, having recently somewhat increased. The town lies on an eminence overlooking the surrounding country. The late Judge Coulter, one of the Judges of the Supreme Court of Pennsylvania, resided here. He was

one of the soundest lawyers and purest men in the State. This place is three hundred and twenty-four miles from Philadelphia, two hundred and seventeen from Harrisburg, and twenty-four from Pittsburg. It is ten hundred and ninety-one feet above tide-water. The railroad at this place, not quite finished as yet, will be in operation a few months ensuing. A railroad is also being constructed from Greensburg to Wheeling, which will probably intercept a large amount of the trade of the Ohio, during the season of low water above that point, as well as a portion of the travel now enjoyed by the Baltimore and Ohio Railroad. With these splendid improvements, concentrating at Greensburg, it will probably assume an active business aspect in striking contrast to its past career.

The remains of Gen. Arthur Saint Clair are buried in the Presbyterian church-yard of this place, over which a handsome pyramidal monument has been erected by his brethren of the Masonic fraternity. Gen. St. Clair, in addition to his connection with the Revolutionary struggle, bore a conspicuous part in the political movements of this State, having been a member of Congress, a member of the Convention to form the Constitution of the State, a candidate for Governor, &c., &c. His military career, on several occasions, exposed him to censure; but he was a true patriot, and withal a useful and valuable man. The latter portion of his life was embittered with pecuniary misfortunes, and he lived for some time in comparative seclusion amongst the hills of the Chesnut Ridge.

Twenty-one miles from Greensburg, and ten from Pittsburg, we pass the scene of Gen. Braddock's battle with the French and Indians, which took place in 1755. The entire region of country watered by the Ohio and its tributaries had long been claimed by the French, upon the strength of the original discoveries of La Salle. They accordingly built forts at various points along the Ohio, the Alleghany and Monongahela, and established themselves in the friendship of the Indians then living along those rivers. In the meantime, the authorities of Virginia and Pennsylvania conceiving that the country rightfully belonged to the British Crown, and constituted a portion of their respective colonies, took measures to oppose the further occupancy of the French. In the prosecution of this work, the fort at Pittsburg was commenced in 1754, under the authority of the Governor of Virginia; but, before its completion, the French captured it, and held it under the name of Fort *Du Quesne*, until 1758, when it



BATTLE OF BRADDOCK'S FIELD.

was abandoned to Gen. Forbes. Soon after it was enlarged and improved by Gen. Stanwix, and named Fort Pitt, in honor of the distinguished British statesman, and from which Pittsburg subsequently took its name. It thus remained in possession of the English until the commencement of the Revolutionary war, when it was seized and ever after held by the Americans—including, also, the whole surrounding country—the claim of Virginia in the meantime having been amicably arranged.

It was in view of the incursions of the French, that General Washington, in 1753, then a mere youth, was dispatched by the Governor of Virginia on an expedition to the head waters of the Ohio, to ascertain and report the state of the country. This was one of the most perilous journeys that could have been undertaken—his path laid through immense wildernesses, covered with the snows of a severe winter, and beset, at every turn, with hostile Indians. One of the most memorable incidents of this journey, (which exhibits the remarkable boldness and indefatigable energy of him who afterwards became the embodiment of our revolutionary struggle,) was the passage of the Alleghany River, about two miles above the present city of Pittsburg. The man who could thus push his way across a wild,



WASHINGTON CROSSING THE ALLEGHANY.

icy stream, was well qualified, subsequently, to cross the Delaware with the American army under his directing eye.

"I took my papers," said General Washington, in describing this perilous enterprise, "pulled off my clothes, and tied myself up in a watch-coat. Then, with gun in hand, and pack on my back, in which were my papers and provisions, I set out with Mr. Gist, fitted in the same manner, on Wednesday the 26th of December. The day following, just after we had passed a place called Murdering Town, (where we intended to quit the path and steer across the country for Shanopin's Town,) we fell in with a party of French Indians, who had lain in wait for us. One of them fired at Mr. Gist or me, not fifteen steps off, but fortunately missed. We took this fellow into custody, and kept him until about nine o'clock at night, then let him go, and walked all the remaining part of the night without making any stop, that we might get the start so far as to be out of the reach of their pursuit the next day, since we were well assured they would follow our track as soon as it was light. The next day we continued travelling until quite dark, and got to the river about two miles above

Shannopin's. We expected to have found the river frozen, but it was not, only about fifty yards from each shore. The ice, I suppose, had broken up above, for it was driving in vast quantities.

There was no way for getting over but on a raft, which we set about with but one poor hatchet, and finished just after sun-setting. This was a whole day's work; we next got it launched, then went on board of it, and set off; but before we were half way over, we were jammed in the ice in such a manner that we expected every moment our raft to sink, and ourselves to perish. I put out my setting-pole to try to stop the raft, that the ice might pass by, when the rapidity of the stream threw it with so much violence against the pole, that it jerked me out into ten feet water; but I fortunately saved myself by catching hold of one of the raft-logs. Notwithstanding all our efforts, we could not get to either shore, but were obliged, as we were near an island, to quit our raft and make to it. (Now called Washington's Island.).

"The cold was so extremely severe, that Mr. Gist had all his fingers and some of his toes frozen; and the water was shut up so hard, that we found no difficulty in getting off the island on the ice in the morning, and went to Mr. Frazier's."

A short time after his return to Virginia, the expedition of General Braddock was undertaken. He had arrived in this country in 1755, with the 44th and 45th regiments of royal troops, which were subsequently joined by others, with numerous wagons and horses, obtained through the exertions of Dr. Franklin, in the eastern portion of Pennsylvania. The army moved on the 9th of June, but its progress through the wilderness was much retarded by the wagon trains, which were finally left behind at the suggestion of Washington, acting as aid-de-camp to the commanding General. The General with thirteen hundred men moved forward, leaving Col. Dunbar to follow with the baggage and the remaining troops. The army crossed to the left bank of the Monongahela, below the mouth of the Youghiogony, being prevented by the rugged hills from continuing along the right bank to the fort at Pittsburg, the object of attack. At noon, however, they recrossed to the right bank of the river, near Turtle Creek, some eight miles from Pittsburg. Here occurred the battle. The sloping hills were covered with a dense forest to the water's edge, and their sides were worn with deep ravines and gulleys, rendering the spot a favorite one for the Indian. Captain Orme, an aid of Braddock, says:

"As soon as the whole had got on the fort side of the Monongahela, we heard a very heavy and quick fire in our front. We immediately advanced in order to sustain them, but the detachment of the five hundred men gave way, and fell back upon us, which caused such confusion and struck so great a panic among our men, that afterwards no military expedient could be made use of that had any effect upon them. The men were so extremely deaf to the exhortation of the officers, that they fired away in the most irregular manner all their ammunition, and then ran off, leaving to the enemy the artillery, ammunition, provisions and baggage; nor could they be persuaded to stop till they got as far as Gist's plantation, while many of them proceeded as far as Col. Dunbar's party, some six miles distant. The officers were absolutely sacrificed by their unparalleled good behaviour—advancing sometimes in bodies and sometimes separately—hoping, by such example, to engage the soldiers to follow them; but to no purpose. The whole number of killed and wounded amounted to between six and seven hundred, among which were many officers, including Gen. Braddock himself, with two of his aids. Gen. Morris, speaking of this action, says:—"The defeat of our troops appears to be owing to the want of care and caution in the leaders, who have been too secure, and held in great contempt the Indian manner of fighting. Even by Captain Orme's account they were not aware of the attack. And there are others that say that the French and Indians lined the way on each side, and in the front and behind ravines, that we knew nothing of till they fired upon us." Gen. Washington, nine days after the battle, wrote to his mother, as follows: "When we came there we were attacked by a party of French and Indians, whose number did not probably exceed five hundred men, while ours consisted of about thirteen hundred well-armed troops, chiefly regular soldiers who were struck with such a panic that they behaved with more cowardice than it is possible to conceive. The officers behaved gallantly in order to encourage their men, for which they suffered greatly, there being near sixty killed and wounded—a large proportion of the number we had. The Virginia troops showed a good deal of bravery, and were nearly all killed; for I believe out of three companies that were there, scarcely thirty men are left alive. Capt. Peyrouny and all his officers, down to a corporal, were killed. Capt. Polson had nearly as hard a fate, for only one of his was left. In short, the dastardly behavior of those they call regulars exposed

all others that were inclined to do their duty, to almost certain death; and at last, in despite of all the efforts of the officers to the contrary, they ran, as sheep pursued by dogs, and it was impossible to rally them.

"The General was wounded, of which he died three days after. Sir Peter Halkett was killed in the field, where died many other brave officers. I luckily escaped without a wound, though I had four bullets through my coat, and two horses shot under me. Capts. Orme and Morris, two of the aids-de-camp, were wounded early in the engagement, which rendered the duty hard upon me, as I was the only person then left to distribute the General's orders; which I was scarcely able to do, as I was not half recovered from a violent illness, that had confined me to my bed and a wagon for above ten days. I am still in a weak and feeble condition, which induces me to halt here two or three days, in the hope of recovering a little strength to enable me to proceed homeward."

And to his brother John he writes at the same time: "As I have heard, since my arrival at this place, a circumstantial account of my death and dying speech, I take this early opportunity of contradicting the first, and of assuring you that I have not yet composed the latter. But, by the all-powerful dispensations of Providence, I have been protected beyond all human probability or expectation; for I had four bullets through my coat,* and two horses shot under me, yet escaped unhurt, although death was levelling my companions on every side of me!"

Arrived at our journey's end, we have little more to say. PITTSBURG lies in a triangular position, between the Alleghany and the Monongahela—the first flowing in from a north-east, and the other from a south-east direction. Passing on each side of the city, they unite their waters at its western point, and thus form, and thus

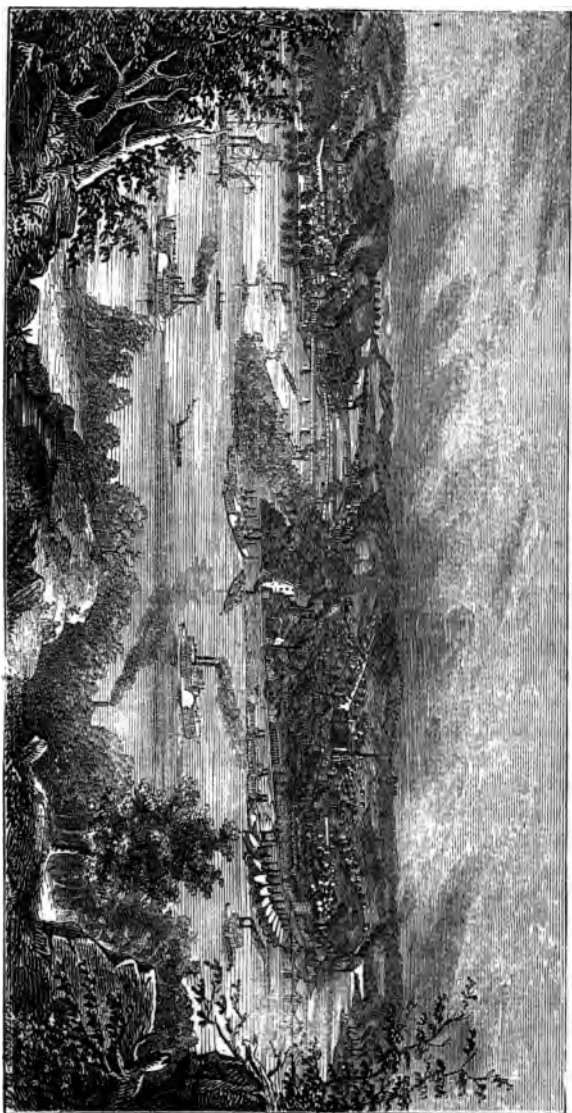
* When Washington went to the Ohio, in 1770, to explore wild lands near the mouth of the Kenawha river, he met an aged Indian chief, who told him, through an interpreter, that during the battle of Braddock's field he had singled him out as a conspicuous object, fired his rifle at him many times, and directed his young warriors to do the same; but none of his balls took effect. He was then persuaded that the young hero was under the special guardianship of the Great Spirit, and ceased firing at him. He had now come a long way to pay homage to the man who was the particular favorite of heaven, and who could never die in battle.

stretches forth the broad and beautiful Ohio. In this respect Pittsburg is situated somewhat similarly to New York, and it will not be many years before it will bear comparison with that great commercial emporium in many other respects. The present population is about fifty thousand, including the manufacturing villages adjacent, and Alleghany city opposite, which properly constitutes a portion of the main city. The land upon which it stands was originally owned by the Penn family, under whose auspices the town was surveyed and laid off in lots, in 1765, at which time it contained but a few log houses, hurriedly thrown up by the Indian traders and other adventurers. Its progress since has been rapid and extraordinary; and its future prospects are brighter than ever.

As a manufacturing and distributing point, Pittsburg must ultimately become, if it is not now, the most important interior city in this country. The transportation of nearly every article of manufacture intended for western consumption, from the Atlantic sea-board to the western waters is, and always must be, an item of serious expense, which the consumer naturally desires to avoid. This is particularly the case in reference to heavy bodies, as iron, wood, glass, earthen and other wares, and it is in the production of these articles that Pittsburg is most extensively engaged. With inexhaustible beds of coal and iron, with abundance of salt, minerals, lumber, wool, and an endless variety of agricultural facilities—standing at the head of the longest continuous river in the world, with uninterrupted navigation throughout, as well as to points radiating from it, comprising thousands of miles of uninterrupted water navigation, penetrating every point of the great, grand, and glorious West—to say nothing of the canal and railway system forming a net-work of more interior intercourse—Pittsburg is, and ever must be, the principal theatre of the productive greatness of this vast continent! Nature has so ordained it—she has fixed her stamp of greatness upon it, and her right to enjoy it there is none to dispute.

The annexed view of Pittsburg is afforded from the hill above Sligo, nearly opposite its western point. The editor of the *Wheeling Times*, (which has always been a rival city,) in speaking of the visit of a Board of Inquiry appointed to select a site for the United States Marine Hospital, some years ago, used the following eloquent language:

“This Board found Pittsburg a much larger place than Wheeling;



PITTSBURG.

they found it a thriving place, with numerous engines, furnaces, and machinery; they found it with a rich and industrious population—a people that would work, and would therefore prosper—at the same time they found them an hospitable, gentlemanly class of beings, possessed of intelligence and willing to impart it. They doubtless took an early excursion upon the hills that environ the city. They looked down, and a sea of smoke lay like the clouds upon Chimborazo's base. No breath of air moved its surface; but a sound rose from its depths like the roar of Niagara's waters, or the warring of the spirits in the cavern of storms. They looked around them, and saw no signs of life or human habitation. They looked above them, and the summer sun, like a haughty warrior, was driving his coursers up the eastern sky. Then from the sea of smoke a vapor rose—another and another cloud rode away, and a speck of silvery sheen glittered in the sunbeams.

“Again, a spire came into view, pointing heavenward its long slim finger; then a roof—a house-top—a street; and lo! a city lay like a map spread out by magic hand, and ten thousand busy mortals were seen in the pursuit of wealth, of fame, of love, of fashion. On the left, a noble river came heaving onward from the wilderness of the north, bearing on its bosom the treasures of the forest. On the right, an unassuming but no less useful current quietly yielded to the vessel's prow that bore from a more genial soil the products of the earth. They looked again, and extending downward through fertile and cultivated vales, checkered with gently swelling hills, they saw the giant trunk formed by the union of these noble branches. Ruffling its mirrored surface, they saw the noble steamer leaping like the panting courser, bearing a rich burden from the far sunny south; another, gathering strength and rolling onward to commence its long journey past fertile fields, high hills, rich and flourishing cities, and forests wide and drear, bearing the hand-work of her artisans to Mississippi, Texas, Mexico, the groves of India, and the hills of Pernambuco—nay, to every land to which the sun in its daily course gives light. Such they saw Pittsburg; and as such, as a citizen of the West, we are proud of her.”

And as such, a citizen of Pennsylvania, we are proud of her. But, alas! for the smoke! There is too much of *that* here—our anthracital experience never could be overcome sufficiently to allow our bituminization. You cannot walk the streets with a clean face or a white

collar—pshaw! Pittsburg is full of soot and smoke, emitted from a thousand tremendous coal fires, and the whole aspect of the place is as black as a negro's skin. This makes a residence in it unpleasant—kills taste for dress—prevents the ladies from promenading—destroys their complexions, and plants cabbages where only roses should grow. The sulphurous air, however, prevents eruptions of the skin, and people suffering with these disagreeable diseases should forthwith eschew medicine, and take up a residence for a short time in Pittsburg. It will cure 'em.

Many of the extensive manufactories spoken of as being situated at Pittsburg, are not within the limits of the city proper, but are scattered around within a circle of five miles radius from the courthouse. Within this compass are the cities of Pittsburg and Alleghany, the latter already a large place of some twenty thousand inhabitants, containing many extensive manufactories, particularly of cotton, iron, and white-lead, and doing a large proportion of the lumber business of the district, the boroughs of Birmingham and Lawrenceville, and the towns and villages of Manchester, Stewartstown, Sharpsburg, East Liberty, Wilksburg, Croghansville, Minersville, Arthursville, Riceville, Oakland, Kensington, Sligo, Cuddysville, Temperance Village, Tarantum, Millersville, and New Troy. The manufacturing establishments located in these surrounding villages, have their warehouses, owners, or agents, within the city, and so far as general business interests are concerned, may be considered a part of the city itself, that being the centre where the greater part of the business is transacted.

Judge Breckenridge, in giving some of his recollections of Pittsburg in its infancy, says:

“At the time to which I allude, the plain was entirely unincumbered by buildings or enclosures, excepting the Dutch church, which stood aloof from the haunts of men, unless at those times when it was forced to become the centre of the hippodrome. And the races, shall we say nothing of that obsolete recreation? It was then an affair of all-engrossing interest, and every business or pursuit was neglected during their continuance. The whole town was daily poured forth to witness the Olympian games, many of all ages and sexes as spectators, and many more, directly or indirectly, interested in a hundred different ways. The plain within the course, and near it, was filled with booths as at a fair—where everything was said, and done, and sold,

and eaten or drunk—where every fifteen or twenty minutes there was a rush to some part, to witness a *fisticuff*—where dogs barked and bit, and horses trod on men's toes, and booths fell down on people's heads! There was Crowder with his fiddle and his votaries, making the dust fly with a four-handed, or rather four-footed reel; and a little further on was Dennis Loughy, the blind poet, like Homer casting his pearls before swine, chanting his master-piece in a tone part nasal and part guttural:

“Come, gentlemen, gentlemen all,
 Genral Sincleer shall rem'ber'd be,
 For he lost thirteen hundred men all
 In the Western Tari-to-ree.”

“All at once the cry, to horse! to horse! suspended every other business or amusement as effectually as the summons of the faithful. There was a rush towards the starting post, while many betook themselves to the station best fitted for the enjoyment of the animating sight. On a scaffold, elevated above the heads of the people, were placed the *patres patrie*, as judges of the race, and —— but I am not about to describe the races: my object was merely to call to mind the spot where they were formerly executed; yet my pen on this occasion was near running away with me, like the dull cart-horse on the course, who feels a new fire kindled under his ribs, and from seeing others scamper, is seized with a desire of trying his heels also. The Dutch church, after some time spent in searching was found by me; but as for the race field, it is now covered with three-story brick buildings, canal basins, and great warehouses—instead of temporary booths, erected with forks, and covered with boughs just cut from the woods.

“It will be the business of the annalist, or of the historian, to trace the gradual progress of increase, or the various changes which the city has undergone. Who would imagine, on beholding the concourse of country merchants from all quarters, laying in their supplies of merchandise for the purpose of retail, that but a few years ago, the business was done in small shops, part cash and part country produce, that is, for skins, tallow, beeswax, and maple sugar? Who would imagine that the arrival and encampment of Cornplanter Indians on the banks of the Alleghany would make a great stir among the merchants? It was quite a cheering sight, and one which made brisk times, to see the squaws coming in with their packs on their backs, and to whom the business of selling as high, and buying as cheap as

possible was entrusted. Now an Indian is not to be seen, unless it be some one caught in the woods a thousand miles off, and sent to Washington in a cage to make a treaty for the sale of lands.

"I can still remember when the mountains were crossed by pack horses only, and they might be seen in long files, arriving and departing with their burdens swung on pack-saddles. Wagons and wagon-roads were used in the slow progress of things, and then the wonder of the West, a turnpike, was made over the big hills; and now canals and railways bring us as near to Philadelphia and Baltimore, as the Susquehanna was in those times. The western insurrection is not so much a matter of wonder, and there is no trifling excuse for the dissatisfaction of the West, when we reflect on their situation at that period. The two essentials of civilized and half-civilized life, iron and salt, were almost the only articles they could procure. And how could they procure them? There was no sale for their grain down the Ohio and Mississippi, on account of the Indian war, and the possession of New Orleans by the Spaniards. There was no possibility of transporting their produce across the mountains, for sale or barter. There was but one article by means of which they could contrive to obtain their supplies, and that was whiskey! A few kegs were placed on each side of a horse, transported several hundred miles, and a little salt and iron brought back in their place. Is it any wonder that the excise, in addition to the expense of transportation, almost cut them off even from this miserable resource?"

From 1790 to 1800, says the editor of Harris' Directory, the business of Pittsburg and the West was small, but gradually improving; the fur trade of the West was very important, and Messrs. Peter Maynard and William Morrison were engaged largely in it, and from 1790 to 1796 received considerable supplies of goods, through Mr. Guy Bryan, a wealthy merchant in Philadelphia, and the goods were taken to Kaskaskia in a barge, which annually returned to Pittsburg, laden with bear, buffalo, and deer skins, and furs and peltries of all kinds, which were sent to Mr. Bryan, and the barge returned laden with goods. At that period there was no regular drayman in Pittsburg, and the goods were generally hauled from the boats with a three horse wagon—until in 1797 a Mr. James Rattle, an Englishman, settled in this city, and was encouraged to take up the business, and drayed and stored goods, until a box of drygoods was stolen from his yard and shed, for then we had no warehouse, or regular commis-

sion merchant in Pittsburg—and this broke the poor man up, and he died broken-hearted and unhappy.

A French gentleman, Louis Anastasius Tarascon, emigrated in 1794 from France, and established himself in Philadelphia as a merchant. He was a large importer of silks, and all kinds of French and German goods. Being very wealthy and enterprising, in 1799 he sent two of his clerks, Charles Brugiere and James Berthoud, to examine the course of the Ohio and Mississippi rivers, from Pittsburg to New Orleans, and ascertain the practicability of sending ships and clearing them from this port, ready rigged, to the West Indies and Europe. Those two gentlemen returned to Philadelphia, reported favorably, and Mr. Tarascon associated them and his brother, John Anthony, with himself, under the firm of "John A. Tarascon, brothers, James Berthoud, & Co.," and immediately established a large wholesale and retail store and warehouse, a shipyard, a rigging and sail loft, an anchor smith shop, a block manufactory, and in short everything necessary to complete vessels for sea. The first year, 1801, they built the schooner *Amity*, of one hundred and twenty tons, and the ship *Pittsburg*, of two hundred and fifty tons—and sent the former, loaded with flour, to St. Thomas, and the other, also with flour, to Philadelphia—from whence they sent them to Bordeaux, and brought back a cargo of wine, brandy, and other French goods, part of which they sent here in wagons at a carriage of from six to eight cents per pound. In 1802 they built the brig *Nanino*, of two hundred and fifty tons; in 1803 the ship *Louisiana*, of three hundred tons; and in 1804, the ship *Western Trader*, of four hundred tons.

A curious incident connected with this subject was mentioned by Mr. Clay on the floor of Congress. "To illustrate the commercial habits and enterprise of the American people, (he said) he would relate an anecdote of a vessel built and cleared out at Pittsburg for Leghorn. When she arrived at her place of destination, the master presented his papers to the custom-house officer—who could not credit him, and said to him, 'Sir, your papers are forged; there is no such port as Pittsburg in the world: your vessel must be confiscated.' The trembling Captain laid before the officer the map of the United States, directed him to the Gulf of Mexico, pointed out the mouth of the Mississippi, led him a thousand miles up it to the mouth of the Ohio, and thence another thousand up it to Pittsburg: 'There, sir, is the port from whence my vessel cleared out.' The astonished officer,

before he had seen the map, would as readily have believed this vessel had been navigated from the moon."

In or about the year 1796, three of the royal princes of Orleans came to Pittsburg, and stopped at a hotel situated on the bank of the Monongahela, where Jno. D. Davis's warehouse now stands. They were very affable and conversant, and remained for some time in the city: at length they procured a large skiff, part of which was covered with tow linen, laid in a supply of provisions, and (having procured two men to row the skiff) proceeded on to New Orleans. One of these princes was Louis Phillippe, the late king of France—who, in his exile, visited our city, and spent his time very agreeably with Gen. Neville, Gen. James O'Hara, and several other respectable families who then lived on the bank of the Monongahela river. Louis Phillippe and his companions had previously descended the Susquehanna, to Harrisburg, where they embarked up the Juniata, and over the mountains to Pittsburg.

We remember well during the Embargo times and last war, when the internal trade and commerce of Pittsburg, by the Ohio, Western, and Southern rivers, brought us comparatively nigh to Wheeling, Cincinnati, Louisville, Nashville, St. Louis, Natchez, and New Orleans; but the slow process of keel-boats and barges was such that it consumed almost a whole summer for a trip down and up—when all was done by the hardy boatmen, with the pole or by warping; and when a barge arrived, with furs from St. Louis, cotton from Natchez, hemp, tobacco, and saltpetre from Maysville, or sugar and cotton from New Orleans and Natchez, it was a wonder to the many, and drew vast crowds to see and rejoice over it. And then the internal commerce during the war allied us closely with Richmond, Baltimore, Philadelphia, and New York—these cities getting much of their sugar, saltpetre, &c., by boats and wagons, through Pittsburg—which then did an immense carrying trade for the United States.

The first steamboat on the western waters was built in Pittsburg, in 1811, and was called the New Orleans. There were but six or seven built previously to 1817. From that period the number has rapidly been increasing, as well as improving in character, model, and workmanship. As late as 1816, the practicability of navigating the Ohio with steamboats was esteemed doubtful—none but the most sanguine regarded it favorably. In 1817, however, Capt. Shreve, an enterprising man, made a trip from New Orleans to Louisville in

twenty-five days. The event was celebrated by rejoicing, and by a public dinner to the daring individual who had achieved the miracle. Previous to that period, the ordinary passages by barges, propelled by oars and sails, was three months. A revolution in western commerce was at once effected. Every article of merchandise began to ascend the Mississippi, until we have seen a package delivered at the wharf at Cincinnati, from Philadelphia, *via* New Orleans, at one cent per pound. From the period of Capt. Shreve's celebrated voyage till 1827, the time necessary for the trip has been gradually diminishing. During that year the Tecumseh entered the port of Louisville from New Orleans in eight days and two hours from port to port! * *

We cannot better illustrate the magnitude of the change in everything connected with western commerce and navigation, than by contrasting the foregoing statement with the situation of things at the time of the adoption of steam transportation, say in 1817. About twenty barges, averaging one hundred tons each, comprised the whole of the commercial facilities for transporting merchandise from New Orleans to the "upper country." Each of these performed one trip down and up again to Louisville and Cincinnati, within the year. The number of keel-boats employed on the upper Ohio cannot be ascertained, but it is presumed that one hundred and fifty is a sufficiently large calculation to embrace the whole number. These averaged thirty tons each, and employed one month to make the voyage from Louisville to Pittsburg; while the more noble and dignified barge of the Mississippi made her trip in the space of one hundred days, if no extraordinary accident happened to check her progress. Not a dollar was expended for wood in a space of two thousand miles, and the squatter on the banks of the Ohio thought himself lucky if the reckless boatman would give the smallest trifle for the eggs and chickens which formed almost the only saleable articles on a soil whose only fault was its too great fertility. Such was the case only a few years ago—what is it now? What is it *not*? Of the 16,674 miles of steamboat navigation of the Mississippi and its branches, there was employed in 1851 an estimated aggregate steamboat capacity of 300,000 tons; 4,500 boats not propelled by steam, of 75 tons average each; making 337,500 tons; which, with the numerous descending flat-boats, making two or three trips per year, with an estimated tonnage of 700,000, gives the extraordinary total of 1,337,500 tons! The value of the merchandize thus annually transported, exceeds \$100,000,000!

And this is but a commencement—a mere foretaste of what is to be done in the future; for we have just shown that only a few years since the first steamboat was built, and the trade of the rivers was then comparatively insignificant.

If Pittsburg enjoyed a clear pure atmosphere—that is, if the disagreeable consequences flowing from the use of its coal could be conveniently obviated, it would attract to a greater extent than it now does men of fortune and enterprise within its bounds. As it is, it will still increase and prosper; but we doubt if it will ever prove an interesting place for those who *have* it, to enjoy their wealth in its midst. Various attempts have been made to kill the effect of the smoke and soot, but they have thus far proved ineffectual. We repeat, this is an insufferable evil, which a stranger, accustomed to a clear atmosphere, cannot overcome.

Let us, in conclusion, accompany our kind reader to the river, where the tall and stately floating palaces are arranged along the shore. Here are generally lying to, from twenty to forty large and elegant steamboats, and the greatest rivalry exists amongst them for the conveyance of passengers, which even seizes the negro cooks and waiters, and firemen. Here is a specimen of their advertisements, set off in rhyme in good Ethiopian spirit:

“Come all ob you passengers
 What want to ride fast,
 Come on de Corneelyah,
 You will nebbe be passed;
 De Corneelyah is a good boat,
 She knows how to move,
 But what will she do
 When her engines get smoothe?

CHORUS—O, go it Corneelyah,
 She is de boat, I reckon.

“She is a fast boat,
 She never comes in lato:
 Leaves Pittsburg at five,
 And Cairo at eight;
 But when she is comin’,
 De ladies dey will say,
 ‘Behold it is Corneelyah,
 She has come before day.
 O, go it Corneelyah,
 She is de boat, I reckon.

"Come all ob you passengers,
 Dat want to know your fare,
 Jus' walk up to de office,
 You'll find our clerk dare:
 Our clerk he is a good man,
 One ob de berry best,
 He treats all ob de passengers
 To de honest good jest.
 O, go it Corneelyah,
 She is de boat, I reckon."

Turning around the projecting angle of the city, we see the glories
 of the broad Alleghany on both sides, strewn with arks, rafts,
 and flat-boats—some loaded with lumber, some with coal, and
 others with iron and miscellaneous freights. These boatmen are
 merry fellows, and have their own sport going down the river:

Heigh-ho! boatmen row,
 A-floating down de riber de Ohio!
 De boatman dance—de boatmen sing—
 De boatmen 're up to eb'ry ting—
 Dance, boatmen dance—dance boatmen dance!
 We'll dance all night till broad daylight,
 And go home wid the gals in the morning!
 Heigh-ho, boatmen row!
 A-floating down de riber de Ohio!

PHILADELPHIA AND THE LAKE TRADE.

THE SUNBURY AND ERIE RAILROAD COMPANY, which was projected to open out the northern counties of the State, and develop their rich mineral and agricultural resources, as well as to pour into the lap of Philadelphia the vast trade of the great lakes, was first chartered in 1837. The charter authorizes the company to construct a Railroad from Sunbury to Erie, 286½ miles. They propose, however, first to build that portion of the road between Williamsport and Erie, a distance of 240 miles; there will then be, in connection with the "Cattawissa and Williamsport," "Little Schuylkill," and Reading railroads, a continuous chain of railroads from Philadelphia to Erie, without transshipment, the entire route of 425 miles lying within the State. The highest grade will be 52 8-10 feet to the mile, and that for only eight miles. The cost of the road, graded and bridged for a double track, with a single track laid, and with sixty miles of siding, completed ready for the locomotive, it is estimated will not exceed six millions, and that it can be completed in two years.

The advantages possessed by this road are very great; the harbor of Erie, its terminus, is by far the best and safest on the lake, having an average depth of about 20 feet, an extent of six square miles, and is free from obstruction by ice considerably earlier in the spring and later in the fall. It is the point at which the competition between the Atlantic cities must take place for the passenger and freight trade of all the railroads running westward from it, by reason of the law of our Legislature, compelling the break of gauge between the Eastern and Western railroads to occur there. At Erie, also, it will connect with some 3000 miles of railroad penetrating in every direction through the Western and North-western States. The country traversed by the road is rich in every source of intrinsic wealth; vast quantities of timber of the best kind for building or shipping purposes, as well as an inexhaustible supply of anthracite and bituminous coals and iron ore, together with the produce of a rich farming district, will seek a market over this road.

The great bituminous coal basin is situated in Clinton County, and is extensively worked. It furnishes the State with coal for locomotive

use on the Columbia Railroad. The coal is free from sulphur, will make gas, and is good for blacksmiths' use.

It is only within a few years past that these northern counties of the State, such as Clearfield, Potter, Forest, McKean, Tioga, Lycoming, Warren, Elk, Jefferson, Clinton, Erie, &c., have excited the attention of settlers in any numbers. But they are rapidly filling up with settlers of the best class, such as Danes, Swedes, Norwegians, and New Englanders. Large companies from Vermont have settled there, and are writing every day for their friends. Ole Bull has purchased large tracts of land, and established a Norwegian colony in Potter County, which is thriving and flourishing rapidly. He has called his town Oleona; it was christened with much ceremony on the 8th of September, 1852. Here, if his town grows and is as prosperous as he can but wish it to be, is a glorious opportunity to render his name as lastingly famous as it now is from his violin celebrity. Many of the foresighted capitalists of Philadelphia make summer trips to this region and are so well pleased with it that they make large purchases. The best route is to Williamsport via the Pennsylvania Central Road to the Junction, about fifteen miles above Harrisburg, thence by packet up the Susquehanna; or, by the Reading Railroad to Pottsville, thence by stage via Danville to Williamsport. Jno. F. Cowan, Esq., of Williamsport, a gentleman who owns large tracts of land, we feel confident, would give any information that might be desired. This gentleman, by judicious purchases, and by re-selling his land to actual settlers, on easy terms, has amassed a large fortune within comparatively a short period.

The construction of the proposed road must inevitably induce a very extensive improvement in each of those branches of industry, and develop an incalculable amount of wealth now comparatively unproductive for want of such an outlet—while in time these improvements will add largely and rapidly to the business and profits of the road and the revenues of the State.

The great Western Lake *Country*, with which the proposed road will unite Philadelphia, contained in 1810 a *population* of only 272,000. The five States which have been formed out of the Northwest Territory, bordering on the lakes, now number a population of four millions and a half—being fifty per cent. more than the entire population of the United States at the time of the Declaration of Independence.

The territory embraced between the Ohio River and the Lakes,

from the western boundary of Pennsylvania to the Upper Mississippi, containing about 180,000,000 acres of *arable* land, measures 280,000 square miles, being nearly twice as large as France, and about six times as large as the whole of England.

The trade of the lakes, with which Philadelphia will have a direct connection, in the aggregate of foreign and domestic imports and exports at the several ports, largely exceeds \$200,000,000 per annum.

For passengers who arrive at Erie it will be the shortest route to a good market, as will be seen by the following :

From Erie to New York via Dunkirk,	505 miles.
From Erie to New York via Buffalo,	568 miles.
From Erie to Philadelphia,	425 miles.

In connection with this road, and the products of the counties which it will open, we should perhaps allude more particularly to the lumber trade of Northern Pennsylvania.

When enumerating the sources of Philadelphia's prosperity, we speak of her manufactories, her commerce, her iron trade, and her vast and still increasing coal trade. Has it ever occurred to Philadelphians that the lumber trade of Northern Pennsylvania, which they nearly monopolize, is infinitely greater and more important than they have the least conception of? Not having the necessary data before us, we cannot make use of the exact figures; but, still, we have not the slightest hesitation in asserting that between three and six millions of dollars worth of lumber are now yearly manufactured in Northern Pennsylvania, and that for some years to come this amount will be increased in place of being diminished. The annual yield of anthracite coal in all parts of the State, is about four millions of tons, which is worth about six millions of dollars at the mines; and yet many Philadelphians are inclined to believe that the principal source of the prosperity of the city is in the enjoyment of this trade.

At a very considerable outlay of money, a Boom has been constructed in the Susquehanna some three or four miles above Williamsport, for the purpose of catching and retaining saw logs during the floating season. This is the mechanical object of the Boom. The commercial or speculative object is to bring distant lumber regions into market, and to bring the logs to the saw mill, instead of the saw mill to the logs. In other words, a man owning timber lands, say at the head waters of Pine Creek, or Cedar Creek, or Kettle Creek, in-

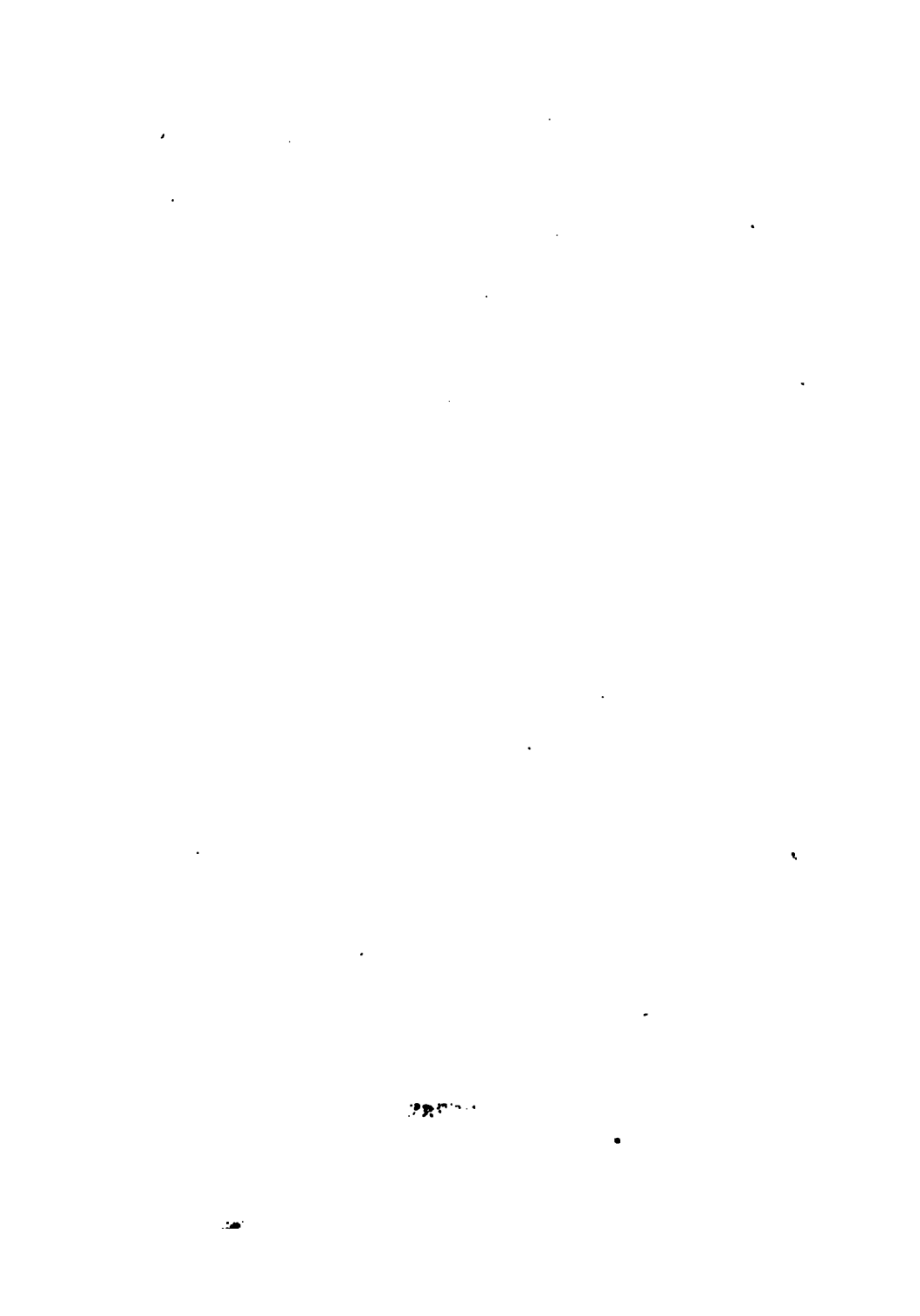
stead of erecting a saw mill some sixty or eighty miles from the head of canal navigation, erects it in the neighborhood of Williamsport, within sight of the canal. During the winter, he gets out his logs, and as soon as the spring freshet takes place, boldly launches them into the rushing stream. Under the guidance of the hardy, red shirt "drivers," they are hurried down the creeks until they reach the "big river," and down the "big river" they are "driven" until they come within the clutches of the Boom.

Under the expectation that the Boom would accomplish all that its projectors promised for it, a number of large and very expensive steam saw mills have been erected in the immediate vicinity of Williamsport; and more mills, equally as large and equally as expensive, will be built. It may be inferred from this that great confidence was reposed in the successful operations of the Boom; and that unless that confidence was well grounded, immense pecuniary losses would be the consequence. The strength and capacity of the Boom was tested to its fullest extent this spring; and the experiment was made for the purpose of ascertaining whether lumber could be manufactured at a profit in the immediate neighborhood of Williamsport, and timber lands of distant regions could be made equally as available as the timber lands of what was once regarded more favorable locations. The experiment was far more successful than the most sanguine had the temerity to hope for. In the place of catching fifteen or twenty thousand logs, the Williamsport Boom Company caught and retained, in ten days, from fifty to eighty thousand logs—and demonstrated to the entire satisfaction of the community, that if the West Branch was dotted with saw mills from the mouth of the Lycoming Creek to the mouth of Loyalsock Creek, there would be no difficulty in procuring a sufficient amount of stock.

The company will be able to catch and retain upwards of two hundred thousand logs, or about four hundred thousand logs during the spring and fall freshets. Saw logs, when manufactured into boards, will average three hundred feet per log; consequently, the manufactured product of four hundred thousand logs would be one hundred and twenty million feet of boards, which at \$16 per thousand, in the Philadelphia market, (a low figure) would bring \$1,920,000. There is now in the vicinity ten large steam saw mills, with capacity sufficient to manufacture 40,000,000 feet of lumber per annum. If our figures are correct—and the Boom Company will make them correct,

so far as the catching, retaining, and delivering the logs are concerned—it will require thirty large water or steam saw mills, in the neighborhood of Williamsport, to manufacture all the logs which can be, and which eventually will be delivered by the Williamsport Boom Company. The manufacture of lumber, directly on the West Branch River, is now in its infancy. It must rapidly increase from month to month, and from year to year, adding millions to the wealth and thousands to the population of the Susquehanna region. The start which Williamsport, Jersey Shore, Lock Haven, and Montoursville have taken is solely to be attributed to this trade. Williamsport, from her location, and from her large investment of capital, is and must continue to be, the soul and centre of the West Branch lumber region. Now that she has undertaken to manufacture lumber on a scale never before attempted by any one town in the United States, it may safely be assumed that her population will be doubled within the next ten years.

THE END.







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